Supreme Court, U.S.
FILED
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CLERK

No. 96-320

IN THE

Supreme Court of the United States

OCTOBER TERM, 1996

METRO-NORTH COMMUTER RAILROAD COMPANY,

Petitioner,

v.

MICHAEL BUCKLEY,

Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

JOINT APPENDIX

SHEILA L. BIRNBAUM*
SKADDEN, ARPS, SLATE, MEAGHER & FLOM LLP
919 Third Avenue
New York, New York 10022
(212) 735-3000
Counsel for Petitioner

CHARLES C. GOETSCH*
CAHILL, GOETSCH & DIPERSIA, P.C.
43 Trumbull Street
New Haven, Connecticut 06511
(203) 777-1000
Counsel for Respondent

*Counsel of Record

PETITION FOR CERTIORARI FILED AUGUST 29, 1996
CERTIORARI GRANTED NOVEMBER 1, 1996

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RELEVANT DOCKET ENTRIES UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK

Michael Buckley v. Metro-North Commuter Railroad Company, No. 89-cv-7170 (S.D.N.Y.)

DATE	NO.	PROCEEDINGS
10/27/89	1	COMPLAINT filed; Summons issued and Notice pursuant to 28 U.S.C. 636(c); FILING FEE $ 120.00 RECEIPT # 1965 Jury Trial Demanded (vb) [Entry date 02/03/92]
12/28/89	3	Notice of reassignment - to Judge Whitman Knapp Copy of notice and judge's rules mailed to Attorney(s) of record: Robin Grumet, John G. DiPersia . (vb) [Entry date 02/03/92]
2/9/90	4	AMENDED COMPLAINT by Nicholas Giamona , (Answer due 2/19/90 for Metro-North Commuter) amending [1-1] complaint; Summons issued. (vb) [Entry date 02/03/92]
2/9/90	5	Giamona's Amendment to cmplt (vb) [Entry date 02/03/92]
5/17/90	6	SECOND AMENDED COMPLAINT by Nicholas Giamona , (Answer due 5/28/90 for Metro-North Commuter) amending [4-1] amended complaint; Summons issued. (vb) [Entry date 02/03/92]

2/7/91	18	THIRD AMENDED COMPLAINT by Nicholas Giamona, (Answer due 2/18/91 for Metro-North Commuter) amending [6-1] amended complaint ; Summons issued. (vb) [Entry date 02/03/92]
4/8/91	20	Pltffs COMPLAINT for action 89 civ 7170-A WK (vb) [Entry date 02/03/92]
9/19/91	21	NOTICE OF MOTION by Lawrence Brown for declaration of admissibility of states investigative report (vb) [Entry date 02/03/92]
9/19/91	22	NOTICE OF MOTION by Lawrence Brown in limine regarding Metro's response to state's investigative report (vb) [Entry date 02/03/92]
1/27/93	23	MEMORANDUM by Metro-North Commuter in opposition to [22-1] motion in limine regarding Metro's response to state's investigative report, [21-11 motion for declaration of admissibility of states investigative report (la) [Entry date 02/05/92]
2/14/92	24	REPLY MEMORANDUM by Lawrence Brown re:the action 89 civ 7170-A (WK) regarding admissibility of State's investigative report (la) [Entry date 02/18/92]

4/10/92	25	ORDER granting [22-1] motion in limine regarding Metro's response to state's investigative report (signed by Judge Whitman Knapp); Copies mailed (cd) [Entry date 04/15/92]
4/22/92	26	ANSWER to Complaint by Metro-North Commuter (Attorney Richard J O'Keefe), ; Firm of: O'Keefe, Kline & McCaffrey by attorney Richard J. O'Keefe for defendant Metro-North Commuter (cd)
5/10/93	28	ORDER, that the caption of this case be changed to read as follows: Daniel Nelson v. Metro-North Commuter Railroad, 89 Civ. 7170-A (WK). (signed by Judge Whitman Knapp); Copies mailed (sc) [Entry date 05/11/93]
7/20/94	29	JOINT PRETRIAL MEMORANDUM (ae) [Entry date 07/21/94]
8/16/94	30	FOURTH AMENDED COMPLAINT by Lawrence Brown, Nicholas Giamona, Daniel Z. Nelson , (Answer due 8/29/94 for Metro-North Commuter) amending [18-1] amended complaint; Summons issued. (jr) [Entry date 08/30/94]

10/7/94	31	ANSWER by Metro-North Commuter (Attorney Richard J. O'Keeffe) to amended complaint; jury demand; Firm of: O'Keeffe, Kline & Lindgren by attorney Richard J. O'Keeffe for defendant Metro-North Commuter (kg)
10/18/94	32	Proposed Voir dire questions by Michael Buckley. (kg) [Entry date 10/19/94]
10/18/94	33	Pltff's Proposed Charges to the Jury. (kg) [Entry date 10/19/94]
12/1/94	34	NOTICE OF MOTION by Michael Buckley in limine No Return date. (kg) [Entry date 12/02/94]
12/28/94	35	REPLY MEMORANDUM by Michael Buckley re: [34-1] motion in limine (emil)
1/30/95	36	CONSENT ORDER, substituting Siff Rosen in place of O'Keefe, Kline & Lindgren as counsel for Metro-North (signed by Judge Whitman Knapp); (emil)
2/2/95	37	Supplemental Proposed Voir dire questions by Metro-North Commuter (emil) [Entry date 02/03/95]
2/2/95	38	Proposed Request to charge by Metro-North Commuter (emil) [Entry date 02/03/95]

2/6/95	39	MEMORANDUM by Michael Buckley in opposition to Metro-North's motion in limine regarding not contesting negligence (emil)
2/6/95	--	Jury trial held (emil) [Entry date 02/16/95]
2/6/95	--	Jury trial begun (dcap) [Entry date 02/15/96]
2/7/95	--	Jury trial held (emil) (Entry date 02/16/95]
2/8/95	--	Jury trial held (emil)[Entry date 02/16/95]
2/9/95	--	Jury trial held (emil) [Entry date 02/16/95]
2/13/95	--	Jury trial held (emil) [Entry date 02/16/95]
2/14/95	40	NOTICE OF MOTION by Michael Buckley in limine regarding pltff's Metro-North attendance records, Return date not indicated. (emil)
2/14/95	41	NOTICE OF MOTION by Michael Buckley in limine regarding disclosure of surveillance information and photographs Return, date not indicated. (emil)

2/14/95	42	MEMORANDUM by Michael Buckley in opposition to motion for directed verdict or for judgment as a matter of law (emil)
2/14/95	--	Jury trial held (emil) [Entry date 02/16/95]
2/14/95	--	Jury trial concluded (dcap) [Entry date 02/15/96]
3/15/95	43	MEMORANDUM OPINION #74438, This is a case brought under the Federal Employers Liability Act by one of the "snowmen of Grand Central Terminal" for negligent infliction of emotional distress caused by deft Metro-North's negligent exposure of pltff to asbestos from June of 1985 to early September 1987. Because deft had conceded negligence, the only issues at trial were causation and damage. At the close of pltff's case, deft moved for a directed verdict. Because we find that pltff failed to prove that he had sufficient impact w/ asbestos to result in a reasonable fear of developing an asbestos-related disease; and because he failed to prove that he had suffered a real emotional injury, we grant deft's motion and direct a verdict in it favor (Signed by Judge Whitman Knapp); Copies mailed. (emil)
3/21/95	44	JUDGMENT that deft's motion for a directed verdict is granted. The com-

		plaint is dismissed for the reasons stated in the Court's Opinion and Order, dated 3/15/95 (Parkison, J., Clerk); Mailed copies and notice of right to appeal. (emil) [Entry date 03/22/95]
4/5/95	45	Transcript of record of proceedings filed for dates of 2/6/95 (emil)
4/19/95	46	NOTICE OF APPEAL by Michael Buckley ; from [44-1] judgment order . Copies of notice of appeal mailed to Attorney(s) of Record: William Ballaine - (em) [Entry date 04/24/95]
5/9/95	47	Transcript of record of proceedings filed for dates of Feb. 7, 8, 9, 1995 (emil) [Entry date 05/10/95]
5/9/95	48	Transcript of record of proceedings filed for dates of Feb. 13, 14, 1995 (emil) [Entry date 05/10/95]
6/12/95	49	STIPULATION and ORDER, to supplement the record on appeal (signed by Judge Whitman Knapp). (emil) [Entry date 06/13/95]
7/14/95	50	Notice that the record on appeal has been certified and transmitted to the U.S. Court of Appeals: [46-1] appeal by Michael Buckley (rg) [Entry date 07/18/95]

RELEVANT DOCKET ENTRIES
UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT

Michael Buckley v. Metro-North Commuter Railroad Company, No. 95-7399 (2d Cir.)

DATE	PROCEEDINGS
4/26/95	Copy of district court docket entries and notice of appeal on behalf of Appellant Michael Buckley filed. [95-7399] Form C due on 5/1/95. Form D due on 5/1/95. (cv71)
4/26/95	Appellant Michael Buckley Form C filed, with proof of service. [95-7399] Form C deadline satisfied. (cv71)
4/26/95	Appellant Michael Buckley Form D filed, with proof of service. [95-7399] Form D deadline satisfied. (cv71)
4/26/95	Appellant Michael Buckley AMENDED Form C, filed, with proof of service. (cv71)
4/26/95	Appellant Michael Buckley AMENDED Form D, filed with proof of service. (cv71)
5/31/95	Notice of appearance form on behalf of William G. Ballaine, Esq., received. (Orig. to Calendar) (in06)
6/1/95	The CAPTION PAGE for this appeal has been AMENDED. (cv71)

6/9/95	New scheduling order number #2 filed. New record on appeal due date is 6/30/95. New appellant's brief due date is 7/7/95. New appellee's brief due date is 8/7/95. New argument week as early as 8/28/95. (FS) (cv70)
6/21/95	New scheduling order number 3 filed. New record on appeal due date is 7/14/95. New appellant's brief due date is 7/21/95. New appellee's brief due date is 8/21/95. New argument week as early as 9/11/95. [FJS] (cv71)
7/14/95	Record on appeal index in lieu of record filed. (cv74)
7/21/95	Appellant Michael Buckley brief FILED with proof of service. (cv78)
7/21/95	Appellant Michael Buckley joint appendix filed w/pfs. Number of volumes: 1. (cv78)
8/22/95	Appellee Metro-North Commuter brief filed with proof of service by mail 8/21/95. (cv70)
11/17/95	Letter received from atty W. Ballaine dated 11-10-95 informing the court of his new address. (cv71)
12/8/95	Case heard before FEINBERG, OAKES, CALABRESI CJJ. (TAPE: #97+98) (ca95)

12/12/95 Letter from counsel for the appellee METRO NORTH COMMUTER RAILROAD requesting Judge Calabresi to recuse himself received (lmc)

12/13/95 Letter from counsel for appellant MICHAEL BUCKLEY in response to appellees letter dated 12/12/95 received (lmc)

12/18/95 Letter received from counsel for appellees, in reference to appellant's letter. cc: panel. (cv70)

4/1/96 Judgment of the Southern district court is VACATED & REMANDED by published signed opinion filed. (JLO) [95-7399] (cv71)

4/1/96 Judgment filed. (cv71)

4/8/96 Appellee Metro-North Commuter motion to extend time to file petition for rehearing until 4-22-96 FILED (w/pfs). [783714-1] (to AA) (cv71)

4/15/96 Notice of appearance form on behalf of Sheila L. Birnbaum, Esq., received. (Orig. to Calendar) (in01)

4/15/96 Appellee Metro-North Commuter defective petition for rehearing filed. Notice sent to party to correct by 4-29-95. Problem: petition includes district court decision. (cv71)

4/19/96 Order FILED GRANTING motion for extended time to file petition for rehearing with suggestion for rehearing in banc [783714-1] by Appellee Metro-North Commuter, until April 22, 1996, endorsed on motion form 4/8/96. (JLO, CJ). (ag40)

4/22/96 Notice to counsel re: Motion order filed 4/19/96 granting motion for extension of time to file petition for rehearing and suggestion for rehearing. (ag40)

4/23/96 Appellee Metro-North Commuter defective petition for rehearing cured. Satisfy defective document response due. (cv71)

4/23/96 Appellee Metro-North Commuter Petition for rehearing, petition for rehearing in banc [790251-2] with proof of service filed. (cv71)

7/10/96 Order FILED DENYING petition for RE-HEARING [790251-1] by Appellee Metro-North Commuter, endorsed on motion dated 4/23/96. , DENYING petition for rehearing in banc [790251-2] by Appellee Metro-North Commuter, endorsed on motion dated 4/23/96. (cv71)

7/16/96 Appellee Metro-North Commuter motion to stay the mandate FILED (w/pfs). [828769-1] (cv71)

7/31/96 Order FILED GRANTING motion to stay issuance of mandate [828769-1] by Appellee Metro-North Commuter, endorsed on motion form dated 7/16/96. (cv71)

AMENDED COMPLAINT

(Title omitted in printing)

JURISDICTION

1. This Court has subject matter jurisdiction in this case pursuant to the Federal Employers' Liability Act, 45 U.S.C. §56. Venue properly lies in this Court pursuant to 45 U.S.C. §56.

DEFENDANT

2. The defendant, Metro-North Commuter Railroad, is a railroad corporation duly established by law, and having a usual place of business in New York, New York.

PLAINTIFF

3. The plaintiff, Michael Buckley is of Belle Harbor, New York, and is employed by the defendant Railroad as a pipefitter.

FACTS

4. During all the times herein mentioned, the defendant was a common carrier engaged in the business of interstate commerce, and as such operated a railroad in such business between New York, New York, and New Haven, Connecticut.

5. At the time the plaintiff received the injuries complained of, he was employed by the defendant Railroad.

6. At the time the plaintiff received the Injuries complained of, the defendant Railroad was engaged in interstate commerce and the plaintiff was employed in furtherance of said commerce.

7. Beginning at or about 1985 and extending up to the present, the plaintiff was engaged in his duties as an employee at or about Grand Central Terminal, New York, which yards, buildings, tunnels, pipes, wires, rooms, ceilings, walls, service plant, and all other facilities and structures appurtenant thereto were owned and/or operated and/or controlled and/or maintained by the defendant Railroad.

8. By no later than 1985 the defendant Railroad obtained actual or constructive notice of the danger presented by the presence of asbestos in Grand Central Terminal and the threat that working with or around asbestos posed to the health and welfare of its employees, including the plaintiff.

AS AND FOR A FIRST CAUSE OF ACTION

9. The plaintiff adopts by reference and realleges each and every allegation set forth in paragraphs 1 through 8 of this Complaint with the same force and effect as if set forth under this cause of action.

10. From at or about June 1985 to June 1988, the defendant Railroad, and its agents, servants, or employees, failed to use reasonable care to provide the plaintiff with a safe place to work in that:

a. it failed to adequately instruct, educate, train, and supervise the plaintiff regarding exposure to and handling of hazardous materials, including but not limited to asbestos;

b. it failed to adequately implement and enforce proper policies and procedures regarding exposure to and handling of hazardous materials, including but not limited to asbestos;

c. it failed to adequately test for and to monitor levels of hazardous materials, including but not limited to asbestos;

d. it failed to properly collect and dispose of hazardous materials, including but not limited to asbestos;

e. it failed to demarcate asbestos work areas;

f. it failed to limit access to asbestos work areas;

g. it failed to provide warning signs demarcating asbestos work areas;

h. it failed to ensure that asbestos waste did not accumulate on the floor or fall to the floor in employee work areas;

i. it failed to provide the plaintiff with laundry services so as to ensure that he did not carry toxic and carcinogenic materials such as asbestos out of the workplace and into his home.

11. From at or about June 1985 to June 1988 the defendant Railroad, and its agents, servants, or employees, failed to use reasonable care to provide the plaintiff with safe and suitable tools, appliances, and equipment in that:

a. it failed to provide the plaintiff with proper and adequate respirators, suits, boots, and hoods so as to

protect him from the dangers of working with or near asbestos; and

b. it failed to provide the plaintiff with laundry facilities and/or laundry equipment so as to ensure that he did not carry toxic and carcinogenic materials such as asbestos out of the workplace and into his home.

12. As a result of the negligence of the defendant Railroad, its agents, servants or employees, the plaintiff was exposed to dangerous amounts of health-threatening, life-threatening, toxic, and/or carcinogenic materials, including but not limited to asbestos, asbestos-containing materials, and asbestos-related materials.

13. As a result of the defendant Railroad's negligence, the plaintiff repeatedly was impacted by and came into physical contact with harmful amounts of hazardous material, including but not limited to asbestos, such that on repeated occasions his face, skin, and clothes visibly were coated with asbestos fibers and asbestos-containing dust and on repeated occasions he wore asbestos-coated clothing out of the workplace and into his home.

14. As a result of the defendant Railroad's negligence, the plaintiff was forced to inhale and/or ingest into the tissue of his lungs and body harmful amounts of hazardous materials, including but not limited to asbestos, asbestos-containing materials, and asbestos-related materials.

15. As a result of the plaintiff's exposure to asbestos, the plaintiff has suffered an invasion of asbestos fibers into his lung tissue and body that has initiated a scarring process in his lung tissue and body, setting in motion an injurious physical process that renders him more susceptible

to developing clinically diagnosed asbestosis, lung cancer, or other asbestos-related disease or illness.

16. As a result of the plaintiff's exposure to asbestos, the plaintiff has suffered an invasion of asbestos fibers into his lung tissue and body that has initiated a scarring process in his lung tissue and body, setting in motion an injurious physical process that more likely than not will result in a clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness.

17. As a result of the plaintiff's exposure to asbestos, the plaintiff has and will suffer mental anguish and emotional distress and anxiety due to the possibility and/or probability of contracting asbestos-related diseases and illnesses, Including but not limited to asbestosis and lung cancer.

18. As a result of the plaintiff's exposure to asbestos, the plaintiff has and will in the future incur medical expenses for the testing and monitoring of his medical condition related to his exposure to harmful amounts of hazardous materials, including but not limited to asbestos.

19. As of the filing of this Complaint, the physical process set in motion by the scarring of the plaintiff's lung tissue and body has not progressed to the point of a clinically diagnosed condition of asbestosis, lung cancer, or any other asbestos-related disease or illness, and by the filing of this Complaint the plaintiff is not bringing a cause of action or claiming damages for the actual clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness. The plaintiff is not seeking any damages for any clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness which may occur in the future as a result of the defendant's negligence.

AS AND FOR A SECOND CAUSE OF ACTION

20. The plaintiff adopts by reference and realleges each and every allegation set forth in paragraphs 1 through 19 of this Complaint with the same force and effect as if set forth under this cause of action.

21. The defendant Metro-North Commuter Railroad is governed by and subject to workplace safety and health standards pursuant to the Occupational Safety and Health Act (OSHA), 29 U.S.C. §651 et seq.

22. OSHA regulations limit the amount of asbestos fibers to which a worker may be exposed, specify detailed procedures for measuring exposure, and require the use of practices and equipment to protect workers, 29 CFR §§1910.1001, 1926.58.

23. The State of New York, through its Department of Labor, has adopted the OSHA relations for the purposes of New York's workplace safety and health laws, Labor Law 27-a; 12 NYCRR §800.

24. The Federal Railroad Administration has no regulations concerning asbestos, and has declared that OSHA standards regarding environment exposure to asbestos explicitly apply to railroads and railroad employees, 43 Fed. Reg. 10583-10589 (1978).

25. From at or about June 1985 to June 1988, the defendant Metro-North Commuter Railroad ordered the plaintiff to perform work in violation of the applicable OSHA and New York State Department of Labor asbestos regulations, including but not limited to the following:

a. training, education, and maintenance program requirements, including but not limited to New York State's "Right To Know" program, New York Labor Law §875 et seq.;

b. the permissible exposure limit and the excursion limit for employee exposure to asbestos fibers in the workplace;

c. air sampling and personal air monitoring requirements;

d. proper collection and disposal of asbestos;

e. demarcation of asbestos work areas;

f. limiting access to asbestos removal areas to authorized persons;

g. providing warning signs demarcating regulated areas;

h. dealing properly with protective clothing;

i. insuring that asbestos waste did not fail to or accumulate on the floor.

26. The defendant Metro-North Commuter Railroad's violations of the above-enumerated statutes and regulations constitutes negligence per se under the Federal Employers' Liability Act, 45 U.S.C. §51 et seq.

27. The defendant Metro-North Commuter Railroad's violations of the above-enumerated statutes and regulations caused precisely the kind of harm to the plaintiff that the statutes and regulations were designed to prevent.

28. The defendant Metro-North Commuter Railroad's violations of the above-enumerated statutes and regulations (including but not limited to New York State's "Right To Know" law) contributed to the plaintiff's harmful contact with and exposure to asbestos materials, and the plaintiff cannot be held to have been guilty of any contributory negligence pursuant to 45 U.S.C. §53.

29. As a result of the defendant Railroad's violations of the above-enumerated statutes and regulations, the plaintiff was forced to inhale and/or ingest into the tissue of his lungs and body harmful amounts of hazardous materials, including but not limited to asbestos, asbestos-containing materials, and asbestos-related materials.

30. As a result of the defendant Railroad's violations of the above-enumerated statutes and regulations, the plaintiff has suffered an invasion of asbestos fibers into his lung tissue and body that has initiated a scarring process in his lung tissue and body, setting in motion an injurious physical process that renders him more susceptible to developing clinically diagnosed asbestosis, lung cancer, or other asbestos-related disease or illness.

31. As a result of the defendant Railroad's violations of the above-enumerated statutes and regulations, the plaintiff has suffered an invasion of asbestos fibers into his lung tissue and body that has initiated a scarring process in his lung tissue and body, setting in motion an injurious physical process that more likely than not will result in a clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness.

32. As a result of the defendant Railroad's violations of the above-enumerated statutes and regulations, the plaintiff has and will suffer mental anguish and emotional

distress and anxiety due to the possibility and/or probability of contracting asbestos-related diseases and illnesses, including but not limited to asbestosis and lung cancer.

33. As a result of the defendant Railroad's violations of the above-enumerated statutes and regulations, the plaintiff has and will in the future incur medical expenses for the testing and monitoring of his medical condition related to his exposure to harmful amounts of hazardous materials, including but not limited to asbestos.

34. As of the filing of this Complaint, the physical process set in motion by the scarring of the plaintiff's lung tissue and body has not progressed to the point of a clinically diagnosed condition of asbestosis, lung cancer, or any other asbestos-related disease or illness, and by the filing of this Complaint the plaintiff is not bringing a cause of action or claiming damages for the actual clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness. The plaintiff is not seeking any damages for any clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness which may occur in the future as a result of the defendant's violations of the above-enumerated statutes and regulations.

AS AND FOR A THIRD CAUSE OF ACTION

35. The plaintiff adopts by reference and realleges each and every allegation set forth in paragraphs 1 through 34 of this Complaint with the same force and effect as if set forth under this cause of action.

36. At all times relevant hereto, the defendant Railroad was the employer of the plaintiff and as such exercised actual authority over the plaintiff with the power to affect his economic interests.

37. As the employer of the plaintiff, the defendant Railroad owed the plaintiff the legal duty under the FELA to exercise due care and diligence in providing the plaintiff with a reasonably safe place to work.

38. Despite the defendant Railroad's notice of and knowledge regarding the health hazards posed by the exposure of its employees to asbestos in Grand Central Terminal, the Railroad nevertheless ordered the plaintiff on repeated occasions from June of 1985 to June of 1988 to perform work which it knew exposed him to harmful amounts of asbestos.

39. The defendant Railroad was in a position to rectify such exposure of its employees to asbestos in Grand Central Terminal but failed to do so based on pecuniary considerations.

40. The defendant Railroad's deliberate disregard for the health and welfare of the plaintiff constitutes extreme and outrageous conduct within the meaning of Section 46 of the Restatement (Second) of Torts.

41. By its extreme and outrageous conduct in deliberately disregarding the health and welfare of the plaintiff, the defendant Railroad has recklessly caused the plaintiff to suffer severe emotional distress, including but not limited to mental suffering, mental anguish, fright, horror, grief, shame, anger, worry, and fear of the future.

42. As a result of the defendant Railroad's extreme and outrageous conduct, the plaintiff was exposed to dangerous amounts of health-threatening, life-threatening, toxic, and/or carcinogenic materials, including, but not limited to, asbestos, asbestos-containing materials, and asbestos-related materials.

43. As a result of the defendant Railroad's extreme and outrageous conduct, the plaintiff repeatedly was impacted by and came into physical contact with harmful amounts of hazardous material, including but not limited to asbestos, such that on repeated occasions his face, skin, and clothes visibly were coated with asbestos fibers and asbestos-containing dust and on repeated occasions he wore asbestos-coated clothing out of the workplace and into his home.

44. As a result of the defendant Railroad's extreme and outrageous conduct, the plaintiff was forced to inhale and/or ingest into the tissue of his lungs and body harmful amounts of hazardous materials, including but not limited to asbestos, asbestos-containing materials, and asbestos-related materials.

45. As a result of the defendant Railroad's extreme and outrageous conduct, the plaintiff has suffered an invasion of asbestos fibers into his lung tissue and body that has initiated a scarring process in his lung tissue and body, setting in motion an injurious physical process that renders him more susceptible to developing clinically diagnosed asbestosis, lung cancer, or other asbestos-related disease or illness.

46. As a result of the defendant Railroad's extreme and outrageous conduct, the Plaintiff has suffered an invasion of asbestos fibers into his lung tissue and body that has initiated a scarring process in his lung tissue and body, setting in motion an injurious physical process that more likely than not will result in a clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness.

47. As a result of the defendant Railroad's extreme and outrageous conduct, the plaintiff has and will suffer mental anguish and emotional distress and anxiety due to the

possibility and/or probability of contracting asbestos-related diseases and illnesses, including but not limited to asbestosis and lung cancer.

48. As a result of the defendant Railroad's extreme and outrageous conduct, the plaintiff has and will in the future incur medical expenses for the testing and monitoring of his medical condition related to his exposure to harmful amounts of hazardous materials, including but not limited to asbestos.

49. As of the filing of this Complaint, the physical process set in motion by the scarring of the plaintiff's lung tissue and body has not progressed to the point of a clinically diagnosed condition of asbestosis, lung cancer, or any other asbestos-related disease or illness, and by the filing of this Complaint the plaintiff is not bringing a cause of action or claiming damages for the actual clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness. The plaintiff is not seeking any damages for any clinically diagnosed condition of asbestosis, lung cancer, or other asbestos-related disease or illness which may occur in the future as a result of the defendant's extreme and outrageous conduct.

WHEREFORE, the plaintiff Michael Buckley demands judgment against the defendant Railroad in the sum of One Million Dollars, plus all applicable interest and costs.

Dated: New Haven, Connecticut
August 16, 1994

(Jurat omitted in printing)

ANSWER TO AMENDED COMPLAINT

(Title omitted in printing)

The defendant, METRO-NORTH COMMUTER RAILROAD, by its attorneys, O'KEEFFE, KLINE & LINDGREN, answering the Complaint of the plaintiff, state upon information and belief:

1. As to the allegations of Paragraph "5" of the Complaint, defendant denies that the plaintiff received any physical or emotional injury compensable under the Federal Employers Liability Act.

2. As to the allegations of Paragraph "6" of the Complaint, defendant denies that the plaintiff received any physical or emotional injury compensable under the Federal Employers Liability Act.

3. As to the allegations of Paragraph "7" of the Complaint, defendant denies that it "owned" or "controlled" the structures referred to therein.

4. As to the allegations contained in the Paragraph of the Complaint numbered "8", the defendant denies that asbestos in Grand Central Terminal presented any danger to the plaintiff and the defendant further denies that working with or around asbestos posed any threat to the health and welfare of the plaintiff.

AS TO THE FIRST CAUSE OF ACTION

5. As to the allegations of Paragraph "9" of the Complaint the defendant, repeats, reiterates and realleges each and every denial to the Paragraph of the Complaint numbered

"1" through "8", set forth above, with the same force and effect as if fully set forth hereat.

6. As to the Paragraph of the Complaint numbered "10", the defendant denies that it failed to provide the plaintiff with a safe place to work; defendant further denies the allegations designated "10 a" through "10 h"; defendant admits so much of Paragraph "10 i" as alleges that the defendant did not provide plaintiff with laundry services, but specifically denies any obligation or necessity to do so.

7. As to the Paragraph of the Complaint numbered "11", the defendant denies that it failed to use reasonable care to provide the plaintiff with safe and suitable tools and appliances, and equipment; the defendant denies the allegations of Paragraph "11 a" of the Complaint; defendant admits so much of Paragraph "11 b" of the Complaint that alleges it did not provide the plaintiff with laundry facilities but denies any obligation or duty to do so.

8. The defendant denies each and every allegation contained in the Paragraphs of the Complaint designated "12", "13", "14", "15", "16", "17" and "18".

9. As to the Paragraph of the Complaint numbered "19", the defendant denies that the plaintiff has sustained any scarring to his lungs, denies the existence of any physical process allegedly set in motion by the scarring and specifically denies any "unclinically" diagnosed condition of asbestosis, lung cancer, or any other asbestos related disease or illness which the pleadings infer the plaintiff may be suffering from at the time of the filing of the Complaint; defendant further avers that the conclusory allegations in the remainder of the Paragraph "19" of the Complaint are an attempt to split a cause of action, if such cause of action exists.

AS AND FOR A SECOND CAUSE OF ACTION

10. As to the paragraph of the Complaint numbered "20", the defendant repeats, reiterates and realleges each and every denial to the Paragraphs of the Complaint numbered "1" through "19", set forth above, with the same force and effect as if fully set forth hereat.

11. As to the Paragraph of the Complaint numbered "21", the defendant denies that it is governed and subject to all portions of the Occupational Safety and Health Act (OSHA), 29 USC Section 651 et al; defendant reserves the right to admit or deny specific portions of OSHA which plaintiff may assert are applicable to the present action.

12. As to the allegations of Paragraph "22" of the Complaint, defendant admits the existence of OSHA regulations in general, but reserves the right to admit or to deny such OSHA regulations as plaintiff may claim are applicable to the present action.

13. As to the Paragraph of the Complaint designated "23" the defendant admits the existence of Labor Law 27-a; defendant reserves the right to admit or deny such portions of Labor Law 27-a as plaintiff asserts are applicable to the present action.

14. Defendant denies the allegations of Paragraph "24" of the Complaint.

15. As to the Paragraph of the Complaint designated "25", the defendant denies that it ordered the plaintiff to perform work in violation of any applicable OSHA or New York State Department of Labor Asbestos Regulations; defendant further denies the allegations designated "25 a" through "25 i".

16. As to the Paragraph of the Complaint designated "26", the defendant denies violation of any statute or regulation relevant to the within action; defendant specifically denies that violation of the statutes enumerated in general by the plaintiff in the Complaint, and the regulations enumerated in general by the plaintiff in the Complaint constitute negligence per se under the Federal Liability Employers Act.

17. Denies each and every allegation contained in the paragraph of the Complaint designated "27".

18. Denies each and every allegation contained in the Paragraphs of the Complaint designated "28", "29", "30", "31", "32", and "33".

19. As to the Paragraph of the Complaint designated "34", the defendant denies that the plaintiff has sustained any scarring to his lung, denies the existence of any physical process allegedly set in motion by the scarring and specifically denies any unclinically diagnosed condition of asbestosis, lung cancer or any other asbestos related disease or illness which the pleadings infer the plaintiff may be suffering from at the time of the filing of the Complaint; defendant further avers that the conclusory allegations in the remainder of Paragraph "34" of the Complaint are an attempt to split a cause of action, if such cause of action exists.

AS TO THE THIRD CAUSE OF ACTION

20. As to the Paragraph of the Complaint designated "35", the defendant repeats, reiterates and realleges each and every denial to the Paragraphs of the Complaint designated "1" through "34", set forth above, with the same force and effect as if fully set forth hereat.

21. Denies each and every allegation contained in Paragraphs of the Complaint designated "36", "38" and "39".

22. As to the Paragraph of the Complaint designated "40", the defendant specifically denies any "deliberate disregard for the health and welfare of the plaintiff" and the defendant railroad specifically denies any conduct which can be characterized as "extreme and outrageous" and further denies the applicability of Section 46 of the Restatement (2nd) of Torts, to the present action.

23. As to the Paragraph of the Complaint designated "41", the defendant denies each and every allegation contained therein, and specifically denies that the plaintiff herein has sustained any "emotional injury" compensable under the Federal Liability Employers Act.

24. The defendant denies each and every allegation contained in the Paragraphs of the Complaint designated "42", "43", "44", "45", "46", "47", "48" and defendant specifically denies any extreme and outrageous conduct toward the plaintiff, alleged in the foregoing numbered paragraphs.

25. As to the Paragraph of the Complaint numbered "49", the defendant denies that the plaintiff had sustained any scarring to his lungs, denies the existence of any physical process in motion by the scarring and specifically denies any "unclinically" diagnosed condition of asbestosis, lung cancer, or any other asbestos related disease or illness which the pleadings infer the plaintiff may be suffering from at the time of the filing of the Complaint; defendant further avers that the conclusory allegations in remainder of Paragraph "49" of the Complaint are an attempt to split a cause of action, if such cause of action exists.

AS AND FOR A SEPARATE AND COMPLETE AFFIRMATIVE DEFENSE TO THE FIRST, SECOND, AND THIRD CAUSES OF ACTION

26. The facts stated in the First, Second and Third Causes of Action of the Complaint, fail to state a cause of action compensable under the Federal Employers Liability Act.

AS AND FOR A SECOND SEPARATE AND COMPLETE AND/OR PARTIAL DEFENSE TO THE FIRST, SECOND AND THIRD CAUSES OF ACTION

27. If the plaintiff sustained any injury as alleged in the First, Second and Third Causes of Action, said injury was the result of contributory negligence of the plaintiff.

AS AND FOR A THIRD SEPARATE AND COMPLETE AND/OR PARTIAL DEFENSE TO THE FIRST, SECOND AND THIRD CAUSES OF ACTION

28. If the plaintiff sustained any injury as alleged in the First, Second and Third Causes of Action, plaintiff has failed to mitigate damages in respect to the injuries claimed.

AS AND FOR A FOURTH SEPARATE AND COMPLETE AND/OR PARTIAL DEFENSE TO THE FIRST, SECOND AND THIRD CAUSES OF ACTION

29. The plaintiff's claim is barred in whole or in part by the applicable three year Statute of Limitation under the Federal Liability Employers Act.

AS AND FOR A FIFTH SEPARATE AND COMPLETE AND/OR PARTIAL DEFENSE TO THE FIRST, SECOND AND THIRD CAUSES OF ACTION

30. The duty of the defendant to provide medical testing and/or monitoring has been pre-empted and defined by OSHA. Plaintiff is entitled to any damages for medical expenses for testing and monitoring of his medical condition for alleged exposure to hazardous materials, including alleged exposure to asbestos, other than the mandated provisions of OSHA.

WHEREFORE, the defendant, METRO-NORTH COMMUTER RAILROAD, demands judgment dismissing the Complaint, together with the costs and disbursements of this action and for such other and further relief as to the Court may seem just and proper.

Dated: White Plains, New York
September 28, 1994

(Jurat omitted in printing)

EXCERPT OF TRIAL TRANSCRIPT OF FEBRUARY 8 AND FEBRUARY 9, 1995 - TESTIMONY OF STEVEN MARKOWITZ

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STEVEN MARKOWITZ, called as a witness by the plaintiff, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. GOETSCH:

Q. Are you licensed to practice medicine?

A. Yes.

Q. Whereabouts?

A. New York State.

Q. Beginning at the college level, would you tell us your educational background?

A. I went to Yale University for college where I majored in psychology. I then went to Columbia College of

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Physicians and Surgeons, which is the medical school at Columbia, and graduated from there in 1981.

Q. Did you take an internship?

A. Yes.

Q. After an internship did you take a residency?

A. Yes. In fact, two residencies.

Q. Whereabouts did you do your residency?

A. Well, I did my first internship and residency at Montefiore Medical Center in the Bronx. This was in internal medicine. And I subsequently did a two-year full-time residency in occupational and environmental medicine at Mount Sinai.

Q. Do you specialize in any particular field of medicine?

A. I am board certified in internal medicine and I specialize and am board certified in occupational medicine.

Q. Briefly, what is internal medicine?

A. This is study and care of patients who are adults and who have problems of an internal nature.

Q. What is occupational medicine?

A. Occupational medicine is the study and care of patients who have health problems or exposure at the workplace that they are worried about and the health problems derived from exposure at the workplace.

Q. What does it mean to be board certified?

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A. The professional society for a particular specialty is called a board, and each specialty has its own board.

And they set the rules for allowing people to call themselves board certified. In the case of internal medicine and in the case of occupational medicine, each board mandates that one complete a certain number of years of residency in an accredited program, so for internal medicine it was three years and for occupational medicine it is two years. Then each board also requires that the person who wants to become board certified take a national examination after completing the residency. If one passes the board examination and completes the residency in a satisfactory fashion, then one is board certified.

Q. Are you board certified in both internal medicine and occupational medicine?

A. That's correct.

Q. Why did you choose to specialize in the field of occupational medicine?

A. Well, I thought it was interesting. I thought it would remain interesting for the forty or more years that I expect to practice medicine. I also thought we had an opportunity to prevent people from getting sick; that all workplace exposures are preventable; that we can have an opportunity to identify new associations between exposure and disease and thereby not just cure people but prevent

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them from getting sick at all. I thought that was an exciting challenge.

Q. Are you on the staff of any hospital?

A. Mount Sinai Medical Center in Manhattan.

Q. Are you a member of any professional societies?

A. Yes.

Q. Would you name some of those?

A. The American Public Health Association, the American College of occupational and Environmental Medicine, and the New York Academy of Sciences.

Q. Do you hold any academic or teaching appointment?

A. I am full-time employed. I am associate professor at Mount Sinai Medical School.

Q. Does Mount Sinai School of Medicine have any division devoted to occupational medicine?

A. Yes. We have a division, one of the largest in the country, that is the division of environmental and occupational medicine.

Q. What is the history and standing of that division in the field?

A. It has a national and international reputation. It was begun in 1963 as the first hospital-based unit in environmental medicine. It was started by Dr. Irving Selikoff, the great asbestos researcher. He continued at the helm until 1985 when he stepped down and was replaced by

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one of the top people of the National Institute for occupational Safety and Health. We have got two dozen full-time faculty in occupation and environmental medicine, many of whom do research but also provide patient care and teach.

Q. What is asbestos, Doctor?

A. Asbestos is a natural mineral fiber.

Q. What is the typical size of asbestos fiber in the workplace?

A. It's small. It is usually about 5 microns. It can be 10 or 20 microns in length or it can be significantly smaller than that, 1 micron or less in length. The width is even smaller, usually in the range of .1 to .5 micron. A micron is 1 millionth of a meter. A meter is about a yard. so we are talking very, very small fibers.

Q. Can you give us an idea how many such fibers could fit on the head of a pin?

A. It depends how big the head of the pin is, but many fibers can fit into a very small space. Some of the fibers are visible, the larger ones, but the smaller ones are not visible to the naked eye and you can only examine them with the microscope.

Q. Do asbestos fibers have any particular aerodynamic features?

A. They are long and thin. There is one kind that

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is straight, another kind that is more curly, but in general even the curly ones tend to be long and thin, which means aerodynamically how they move in air is that when swept up in a windstream such as when one is breathing, they tend to enter into longitudinal arrangement. They will be parallel to the direction of the wind, or in this case the breath we are talking about people breathing in asbestos fibers so that the important and limiting quality of the asbestos in terms of breathing it in is its width, because it doesn't come in sideways. It comes in lengthwise. So that the very small width we are talking about, less than half a micron, is what is important in terms of breathing it in.

Q. Are those fibers small enough so that a human being would not necessarily recognize that you were breathing asbestos fibers or feel that he was breathing asbestos fibers?

A. That's true. I mean, larger fibers might be caught up in the mucus or in the, nasal hairs, or clumps of fibers, but the majority of fibers will be smaller than that and will pass right through and go directly into the lung.

Q. Does the field of occupational medicine include the study of asbestos's affect on human health?

A. Yes.

Q. Have there been any scientific studies of the relationship between exposure to asbestos and human health?

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A. This is the most extensively studied area in occupational medicine. There have been hundreds and hundreds of studies. There have been at least 7,000 publications on asbestos.

THE COURT: Have you memorized them all?

THE WITNESS: No, I haven't.

Q. Doctor, what is the relationship of the Mount Sinai Medical Center to the study and treatment of asbestos-related disease?

A. Well, Dr. Selikoff, whom I mentioned before, who started our unit, began his work in the late 1950s seeing people who had worked in an asbestos factory in Patterson, New Jersey. He had seen people with scarring of the lungs, called asbestosis, and with some of the cancers of the chest. Then he began really his lifelong devotion to the study and the documentation of asbestos-related disease in humans. He started the largest North American study of insulator, people who put in the asbestos on the pipes and other places, and that study in fact continues to this date. Dr. Selikoff died two years ago but the study is continuing.

In addition, under Dr. Selikoff's direction we have studied many other types of workers, including shipyard workers, sheet metal workers, and a lot of different construction trades.

Q. Do you hold any administrative position at the

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Mount Sinai Division of Environmental and Occupational Medicine?

A. I have handled the residency program in occupational medicine, so I direct the program for the physicians who specialize in occupational medicine. We have a consortium of units that train in all types of occupational and environmental health, including industrial hygiene, occupational medicine, occupational health, nursing and safety. I am the deputy director of that consortium. I am deputy director of that division, the basic division of occupational medicine and various others.

Q. Do you teach any courses in occupational medicine at Mount Sinai?

A. Yes.

Q. Are you familiar are with a governmental agency known as NIOSH?

A. Yes.

Q. What does that stand for?

A. It stands for the National Institute for Occupational Safety and Health.

Q. Have you had any involvement in NIOSH?

A. Yes. The funding for the educational programs comes from NIOSH. I have worked with NIOSH in completing a study of bladder cancer up in Niagara

Falls that occurred in a chemical factory. I am currently doing a study of the

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cost of occupational disease in the United States, again for NIOSH.

Q. Have you performed any professional activities in the field of occupational medicine for state government?

A. Yes.

Q. In what government activities have you done that?

A. In 1986, the New York State Legislature asked us to write a report and describe the extent of occupational disease in the state and how much it costs in terms of health care and lost work time. This was directed by myself and Dr. Landrum, who is head of our unit. In 1987, we issued a report talking about how many people became ill and how many people died as a result of asbestos exposure and many other types of exposure in the workplace in New York State.

After we submitted that report, the state decided that workers really didn't have enough access to expertise in occupational medicine and they established a network of clinical centers throughout the state where people can come and get an expert opinion on whether they have an occupational problem or not, whether they have an exposure that they need worry about or not. There are some eight clinical centers throughout the state now and Mount Sinai is the largest one.

After the success of that, we did a similar kind

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of study for New Jersey, and I was consulted on studies in Pennsylvania and Texas with similar-type efforts, reviewing, basically summarizing, the problem of occupational disease in a given area.

Q. Do you hold any governmental grants in the field of occupational medicine?

A. Yes.

Q. Have you received any awards regarding the teaching of occupational medicine?

A. I have an award, actually it is a grant, from the National Institute of Health Sciences, which is part of the NIH, the National Institutes of Health, and that is an award to teach medical students.

Q. Are you a member of any editorial board of scientific journals in the field of occupational medicine?

A. Yes.

Q. Which one?

A. The American Journal of Industrial Medicine, the Archives of Environmental Health. I review articles for Clinical Toxicology, a Mount Sinai medical journal. And I think there is one other but I can't recall.

Q. Doctor, what is epidemiology?

A. Epidemiology is the study of how disease is distributed in groups of people, with the aim of determining

what the causes of disease are in those groups of people.

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Q. Have you received any formal training in epidemiology?

A. Yes. As part of my residency program in occupational medicine, we did a number of courses which are equivalent to a master's in public health. But since finishing the residency, I have taken about eight or nine courses in epidemiology and biostatistics up at Columbia.

Q. In the course of your practice of occupational medicine, do you apply the principles of epidemiology on a regular basis?

A. Yes.

Q. Have you ever examined large groups of workers for occupational disease?

A. Yes.

Q. Briefly, what studies were you involved in?

A. I was involved with the sheet metal workers study. These are the people who put up sheet metal ductwork in buildings, and work near asbestos. I examined people in the teachers study, looking at whether teachers have been exposed to asbestos and any of the diseases related to asbestos. I have examined school custodians and the skilled trades within

the school system to see whether they had asbestos-related disease.

Q. Who sponsored those studies regarding the teachers and custodians?

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A. The school custodians is the New York City Board of Education. The teachers was the Environmental Protection Agency. The sheet metal, I think, was the union.

Q. Do you teach any courses in occupational epidemiology?

A. Yes. We have a course at Mount Sinai for the residents, specifically looking at the problems of occupational and environmental epidemiology.

Q. Have you authored articles dealing with epidemiology in peer review journals?

A. Yes.

Q. Doctor, are you aware of any danger to human health posed by asbestos exposure?

A. Yes.

Q. Have you studied that subject?

A. Yes.

Q. Have you given lectures and taught courses involving asbestos-related diseases?

A. Yes.

Q. Have you published any articles in medical journals?

A. Yes.

Q. Did any of those concern asbestos-related diseases?

A. Yes.

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Q. Which one was that?

A. In particular -- this is a group I forgot to mention before -- we studied firefighters, New York City firefighters and fire officers, to determine whether they had enough exposure to asbestos to cause problems.

Q. Did the Mount Sinai Division of Environmental and occupational Medicine have a clinic where patients can be examined and treated?

A. Yes.

Q. Do you examine and treat patients at that clinic?

A. Yes, I do.

Q. How many patients a year do you examine and treat regarding exposure to asbestos?

A. Probably 30 or 40 per year now, I would say.

Q. Over the course of your career, how many patients have you examined or treated regarding exposure to asbestos, would you say?

A. Oh, many hundreds, probably somewhere between five hundred and a thousand.

Q. Have any state and federal governmental agencies referred patients to you for asbestos-related examinations?

A. Yes.

Q. What state and federal agencies?

A. The Worker's Compensation Board within New York State, and I believe the office for worker's compensation

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program at the federal level which takes care of shipyard workers.

Q. Do other medical doctors refer patients to you for asbestos-related examination?

A. Yes.

Q. Do attorneys refer individuals to you for, asbestos-related examinations?

A. Yes.

Q. What procedures do you follow when a person is referred to you for an asbestos-related exam?

A. I spend a lot of time talking with the patient about their history, their health problems. In particular, I concentrate on their occupational history, what kind of work they have done throughout their lifetime and what kind of exposures are entailed. I perform a physical examination. I order up certain tests. I spend time educating the patient about asbestos and what behaviors a person can undertake to protect their health in the future.

MR. GOETSCH: Your Honor, could we have a brief sidebar?

THE COURT: Yes.

(At the sidebar)

MR. GOETSCH: The other expert who is going to testify in this case is Dr. Nicholson, and he just came into the courtroom. His expert opinion is going to be based in

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part on Dr. Markowitz's testimony and opinion. They work together, and he relies on Dr. Markowitz's findings and opinions as part of his. He is an expert witness. So I ask that he be allowed on stay in the courtroom and hear Dr. Markowitz's testimony.

MR. LANDMAN: I strongly object to that because it is going to come out that these two people get together all the time and do this. I think, your Honor, it is very unfair. They have him sitting here and hearing direct and cross of this doctor which is going to be the same as the cross of the other doctor. They have had plenty of time to work in the same building; they have had plenty of time to discuss the opinion. Just because he is bringing the opinion out in front of the jury doesn't mean he doesn't know about the opinion.

THE COURT: I will exclude him.

(In open court)

Q. Doctor, does your procedure for examining persons referred to you for asbestos-related disease change at all depending on whether the individual is referred to you by the federal government, a state government, other medical doctors, or an intern?

A. None. I do the same test, ask the same questions, and write the same report.

Q. Doctor, do you consider yourself as having

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expertise on the effect of workplace exposure to asbestos on the health of workers?

A. Yes.

Q. Have you ever been qualified as an expert witness regarding the effects of asbestos exposure in the workplace on the health of workers?

A. You mean in a courtroom?

Q. Yes.

A. Yes.

Q. Doctor, have any attorneys who represent asbestos defendants ever referred cases to you for your review and evaluation?

A. No.

Q. Are you willing to conduct such a review and evaluation for asbestos as to defendant?

A. If it is a reasonable case, meaning if there is a reasonable likelihood of exposure and disease, which is the same criterion I use for all potential patients.

Q. Prior to this case, Doctor, have you ever testified on behalf of a patient that my firm was representing?

A. No.

Q. Prior to this case, have we ever met before?

A. No.

Q. Do you have a professional fee that you charge

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for the time that you spend testifying?

A. Yes.

Q. What is the amount of that fee?

A. $300 an hour.

Q. Doctor, may I ask you to explain --

THE COURT: Are you presenting him as expert?

MR. GOETSCH: Yes, your Honor.

THE COURT: Do you want voir dire?

MR. LANDMAN: Just very briefly, if I could, your Honor, a couple of minutes.

THE COURT: Yes.

VOIR DIRE EXAMINATION

BY MR. LANDMAN:

Q. Doctor, you have only written one article about asbestos, isn't that right?

A. One article that relates strictly to asbestos.

Q. Doctor, you were asked some questions about your involvement with asbestos. Why don't you tell the jury how it is you first got involved in being qualified as an expert witness in asbestos litigation?

A. I was called, I received a phone call and was asked whether I was willing to review a case.

Q. Doctor, did you take any affirmative steps to actually go out and find cases where you could review and testify?

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THE COURT: I think this is cross-examination.

MR. LANDMAN: All right. I have no problem, your Honor, with the doctor being qualified as a specialist in occupational medicine. I will reserve this for cross. That is fine, your Honor.

THE COURT: Let me tell you what all this means. Ordinarily a witness is only allowed to testify to what he or she saw or smelled, heard, observed with his or her senses in one way or another. There are exceptions to the rule. But everything else is called hearsay, and you can't testify to hearsay unless there is some specific reason why you are allowed to. One of those specific reasons is if you are qualified as an expert. When I qualify him as an expert, which you just heard me do, that means that he is entitled to express an opinion about facts that he is told about, that he doesn't necessarily know of his own knowledge. He can express an opinion.

The fact that I qualify him as an expert doesn't mean that you have to think he is an expert. But you make your own decision about that, and then you make your own decision about what weight you will give to his testimony.

MR. GOETSCH: Thank you, your Honor.

DIRECT EXAMINATION CONTINUED

BY MR. GOETSCH:

Q. Doctor, does asbestos exposure cause disease in

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human beings?

A. Yes, it does.

Q. What are the broad categories of the type of disease that asbestos causes?

A. There are two categories: one is scarring and the other is cancer.

Q. Are you familiar with the cancer entitled mesothelioma?

A. Yes, I am.

Q. What is mesothelioma?

A. Mesothelioma is a cancer of the pleura, which is the lining, the outer covering of the lung, or of the similar kind of layer or covering of tissue that covers the abdomen. The mesothelioma in the chest, which is a cancer, is called pleural mesothelioma, and the mesothelioma in the abdomen is called peritoneal mesothelioma. The pleural mesothelioma is not the same as lung cancer. Lung cancer is cancer of the lung tissue, whereas pleural mesothelioma is a cancer of this tissue, which is a very thin, normally very thin, in its undiseased state, covering of the lung.

Q. Doctor, if it would assist you in explanation, would you refer to an anatomical model of the lung to show us where mesothelioma cancer develops?

THE WITNESS: May I stand up to show this?

THE COURT: Sure.

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A. This is a model showing the respiratory system. Just to orient you, the head goes up here, and the abdomen and the rest of the body go down here below. So from top to bottom, what you are looking at is the trachea, the windpipe, where the air travels down into the lung. There are certain parts here that are removable that I am holding on. But the chest consists of two major organs: the heart and the lungs. This putty-looking material here is the lungs, and then when you expose here the left side you can see the heart, which is not relevant to mesothelioma. Asbestos does not affect the heart directly.

Then we remove the other side here, the right side, and you see the inner part of the lungs.

Now, the pleural tissue that I mentioned, the pleura, is a very thin Saran-wrap-like layer of tissue, which is on the outside of the lung. They are all surfaces of the lung tissue. So it is a lung here. It is on the right side here. It is underneath here as well.

What is not shown just below here is the diaphragm, the muscle below the lungs which help you breathe. So the pleura relating to the diaphragm is between the diaphragm and the lungs. The pleura is not inside the lung at all; it is the covering tissue outside the lung.

It is normally very thin. In fact, you can barely recognize it as a distinctive layer here, separate

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from this pinker material which is the inside, which is the lung tissue itself, what we call the lung parenchyma. The pleura doesn't usually become diseased. It can become scarred or developed cancer. The scar -- we will get into.

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Q. Is there any known cause of mesothelioma in human beings?

A. Yes.

Q. What is that cause?

A. Asbestos.

Q. Does smoking cigarettes cause mesothelioma cancer?

A. No, it does not.

Q. Are you familiar with the term, "latency period"?

A. Yes.

Q. What is a latency period?

A. The latency is the gap in time between exposure, when a person receives their exposure to a toxin and development of the disease.

Typically, with chronic diseases such as cancer, the latency period for an environmental cancer-causing chemical is usually 20, 30, or 40 years. That means if you count the time when the person is first exposed to the chemical to the time when they develop the cancer, it is typically 20 or 30 or 40 years. A person does not develop the problem right away. It occurs only after a period of time. That period of time is called latency.

Q. What is the latency period for mesothelioma?

A. Mesothelioma, the average latency is 35 or 40

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years, meaning on average it is that much time that passes between the time the person is first exposed to asbestos and when they develop the cancer.

If a person is first exposed at age 30, on average they wouldn't get the mesothelioma until age 65. Now, it

might be age 70, it might be age 60, in fact, it might be age 45, but on average it is a long period of time. It is 35, 40 years.

Q. After an individual has been exposed to asbestos, does the risk of developing mesothelioma remain level over the years or does it increase over time?

A. It increases over time. You don't see mesotheliomas within the first few years after beginning exposure to asbestos. You only see it after some period of latency.

With time that risk increases so that the risk of getting mesothelioma, say, 30 to 40 years after exposure to asbestos is greater than, say, 15 or 20 years after first being exposed to asbestos. it increases to at least 35 or 40 years.

Q. What is the prognosis of somebody diagnosed with mesothelioma cancer?

A. It is considered universally lethal. There is no good treatment for malignant mesothelioma which is the cancer. Most people live about a year, year-and-a-half. A

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few people live a few years but most everybody dies from the disease unless they develop something else in the meantime.

Q. What are the symptoms of mesothelioma?

A. The presenting symptoms, meaning the initial thing that the patient feels, is chest pain which does not go away or shortness of breath which is severe and more or less sudden.

Q. What typically occurs next after those symptoms are presented and reported to a doctor?

A. Usually, the person sees a doctor pretty soon. These aren't symptoms that are mild and they wouldn't be ignored.

The person has a chest x-ray, a physical examination. The physical examination will usually show -- when they listen to the lungs with a stethoscope you will hear abnormal sounds.

The chest x-ray will show clear abnormality on one side or the other of the lungs. That abnormality, you can't tell exactly what it is from a chest x-ray. You can tell that it is significant. You can tell usually there is fluid in the lung which is produced by the mesothelioma, by the cancer, but it requires further testing to make a tissue diagnosis, to actually get tissue and look at it under the microscope and confirm that it is a mesothelioma as opposed to some other problem.

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Q. Is there any treatment for mesothelioma that is practiced?

A. There is no successful treatment in the sense of cure. Various agents, pharmacological agents, chemotherapy, are used. There are some protocols, some experiments with different agents to see what works. Some places do some surgery, but it is really aimed at prolonging life and improving the quality of life, if it does that, and not really a cure of the disease because there is no known cure.

Q. Is mesothelioma a painful disease?

A. Yes, it is. The hallmark of mesothelioma is chronic, persistent pain in the chest and severe shortness of breath and it is considered, even for a cancer, an especially wasting kind of cancer. The person loses a lot of weight and it is a dramatic kind of thing; more dramatic than most cancers.

Q. Have there been any case studies of workers that developed mesothelioma from asbestos exposure in the workplace?

A. Yes, many studies.

Q. What is the range of workplace exposure that is causally related to mesothelioma?

A. Most studies have not measured the amount of asbestos in the air. That typically wasn't done historically and we don't have good information about that.

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What we have are descriptions of how long people worked in a given trade and what kind of exposure they had.

Mesothelioma, of all the asbestos-related diseases, is considered the one which requires the least amount of exposure, such that a period of months or a few years would be sufficient to produce the mesothelioma or a relatively lower level of asbestos exposure would lead to this disease, say, compared to the scarring of asbestosis.

Q. Is there clinical evidence of workers developing mesothelioma from workplace exposure of under three years?

A. Yes.

Q. Doctor, is there a safe level of exposure to asbestos as far as mesothelioma is concerned?

A. There is no established safe level. We know mesothelioma occurs at relatively lower levels of asbestos exposure.

It hasn't been proven there is a level at which -- a defined level of asbestos exposure which is safe which means there is zero risk. It is thought generally there is a dose-response relationship; as the dose increases -- the exposure increase, there is an increased risk of mesothelioma, and as exposure decreases, there is a decreased risk but that -- if there is any exposure, there is some level of risk.

Q. Has there been any case studies of individuals

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who developed mesothelioma from non-work-related exposure to asbestos?

A. Yes. In fact, some of the earliest studies of mesothelioma related to non-occupational exposure. These were studies of people who lived near asbestos factories, never stepped inside the factory but lived in the neighborhood and, therefore, got asbestos exposure from the contamination of the neighborhood by the factory.

There have been mesotheliomas among family members of workers who have worked with asbestos. For instance, the insulators would -- typically, in the old days, meaning the '40s, '50s and '60s, and, to some extent, into the '70s, these insulators would wear their work clothes home. They would be dusty. That is the nature of their work.

The spouse would often shake out those clothes, thereby actually contaminating the home space with asbestos. At Mount Sinai and elsewhere we have been seeing some of the children of those homes and spouses who have developed mesothelioma, again, after the latency period, after 20 or 30 years.

We can identify that being due to asbestos because asbestos is the only known cause of mesothelioma. If we see a 32-year-old with mesothelioma, we know their exposure most likely occurred early in life.

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Some of those people we have seen are the children of the insulators. Clearly that is a lower level exposure than you would expect in the workplace where asbestos is directly used.

Q. Can asbestos cause lung cancer as well?

A. Yes.

Q. What type of lung cancer can it cause?

A. Pretty much all types of lung cancer.

Q. Is it a type of lung cancer that is treatable at all?

A. Well, of the major types of lung cancer, certainly attempt is made to treat the cancer. There is a better prognosis with mesothelioma but lung cancer is still largely an uncurable disease.

One cell type in particular is somewhat amenable to chemotherapy. If the cancer is early, detected when it is small, then it can be removed and the person can lead a normal life thereafter. But, unfortunately, that is the minority of cases.

Q. Referring briefly to the model of the lung, would you just show us where the lung cancer develops that is caused by asbestos?

A. Again, showing the inside of the lung here, the air travels down through the trachea, the windpipe, and here it breaks into smaller -- a system of tubes which carries

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the air into the lung tissue itself which is the pinker area. It is this pinker area of the lung tissue, the parenchyma, that is where the lung does its work of exchanging gases, bringing in oxygen and removing carbon dioxide.

The lung cancer can occur in the lung tissue itself, the parenchyma, or it can occur affecting the major conducting tissues as well. That is inside the lung.

All of that is considered lung cancer as opposed to outside of the lung, the pleura, which would be a mesothelioma. Both cancers relate to asbestos.

Q. What is the prognosis for the lung cancer caused by asbestos exposure?

A. Well, most lung cancers are not fully amenable to treatment. It is the number one cancer in the U.S. currently. It is really the minority of lung cancers, whether due to asbestos or smoking or anything else, that are amenable to a cure.

Q. As far as developing lung cancer is concerned, Doctor, how does the risk factor of someone who has not been occupationally exposed to asbestos compare to the risk of someone who has been occupationally exposed to asbestos?

A. Asbestos exposure increases the risk of lung cancer and it -- depending on the study, it is anywhere from a two-fold increase to a five-fold increase or even higher.

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Q. Does cigarette smoking also cause lung cancer?

A. Yes, it does.

Q. Have there been any studies on the effect of smoking and asbestos exposure on the development of lung cancer?

A. Yes.

Q. What is the increased risk from asbestos exposure as opposed to increased risk from cigarette smoking as far as lung cancer is concerned?

A. Well, both agents, whether it is cigarette smoking or asbestos, independently increase the risk of lung cancer.

The largest study most frequently quoted is that by Dr. Selikoff of Mount Sinai of the insulators who were heavily exposed to asbestos. Among the insulators who didn't smoke regularly they had a five-fold increased risk of lung cancer due to the asbestos. That increased risk was due to asbestos and not to cigarette smoking.

If you look at a larger study of people who were not exposed to asbestos but smoked heavily, they would have a ten-fold increased risk of lung cancer.

So, separately, each, smoking and asbestos, have caused an increased risk of lung cancer. If you put them together you get a 50-fold increase in lung cancer. The two multiply to get a 50-fold increase in risk.

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Clearly, the two work together synergistically to produce a very high risk of lung cancer even though

each exposure by itself increases the risk of lung cancer quite significantly.

Q. Doctor, what is asbestosis?

A. Asbestosis is the scarring of the lung produced by asbestos.

Q. Briefly, would you describe the physical process that results in the asbestosis, and if you need to refer to the model, please do so?

A. The asbestos fibers in the breathing space, in the work environment, once they become airborne, if a person isn't wear a mask, are readily inhaled to the lung.

As I said before, some of them, particularly the clumps or larger fibers, may get caught up in some of the body's defense mechanism, the hair or nose or mucous, or there are tiny little hairs lining the windpipe called cilia that try to remove foreign material from the lung.

A lot of fibers, because they are small and because of what I mentioned before, the aerodynamic quality of moving sideways, are swept into the lung by breathing, and reach the conducting tubes where they might settle in the walls of the conducting tubes but also get to the outer reaches of the lung itself, into the lung parenchyma where the gas exchanges occur.

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Many of them stay there for the rest of the person's life. There is no known way of getting rid of the fibers once they are inhaled.

At some point those fibers in some individuals can provoke scarring. This is the same kind of scarring that you see on the skin. It is dead tissue. It is, collagen and it collects in the lungs, more at the bases than the upper parts of the lungs.

If there is a little bit of scarring then it won't affect the person in terms of symptoms or their breathing ability but if there is a fair amount of scarring then they will get some symptoms and reduction in their pulmonary function.

Q. What are the symptoms of asbestosis?

A. Shortness of breath is the cardinal symptom. A person finds it hard to breath and they have to breathe more frequently than they would given the same tasks.

Q. How does one go about clinically diagnosing asbestosis?

A. We use the routine tools. The physical examination will often show the characteristic findings when you listen to the lungs with the stethoscope. More sensitive is the routine chest x-ray. It needs to be viewed by a person with training in occupational diseases. Routine chest x-ray will often show the scarring at the bases of the

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lungs.

Q. Is there any treatment for asbestosis?

A. No. There is no -- nothing.we can do to retard or reverse the scarring. We advise influenza shots, pneumonia vaccinations to try to prevent some of the complications of asbestosis. We can give advice about further exposure but the disease process itself, there is nothing we can do about it.

Q. Is that a painful disease?

A. Well, it -- pain is not the hallmark of asbestosis. The suffering relates to the shortness of breath and the inability to do normal things.

Q. Does it have any effect on the patient's weight, appetite or appearance?

A. In advanced disease the person can have weight loss and have the appearance of anyone with a chronic lung disease.

Q. Is asbestosis a fatal disease?

A. It can be fatal but it is usually not. Among the insulators, about 10 percent developed fatal asbestosis, very advanced scarring where they died from pneumonia or some complication. Usually it doesn't cause death but may cause significant hardship.

Q. What is the latency period for asbestosis?

A. Here, again, we are talking about the gap in time

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between when the person is first exposed and when they develop clinical symptoms, they feel short of breath or we can pick the up on the x-ray and this time the latency period is shorter; it is usually 15 or 20 years at a minimum. It may occur earlier but usually not; 15, 20, 25 years is when we begin to see it usually. The risk increases with time. As you stretch that latency period you find increased risk of asbestosis.

Q. How does the amount of exposure required to induce asbestosis compare to the amount of exposure required to produce mesothelioma?

A. Generally, it is considered that lower levels of exposure are needed for mesothelioma than to produce asbestosis.

Q. Does cigarette smoking cause asbestosis?

A. No, it doesn't.

Q. Is it necessary to have asbestosis in order to develop mesothelioma?

A. No, it is not. One is scarring and the other is cancer. In fact, they are different tissues.

The asbestosis is scarring of the lung tissue. The mesothelioma is cancer in the pleura, the covering tissue outside the lung.

Q. They are in different locations?

A. That's correct.

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Q. Is there an established threshold of exposure for asbestos-related cancers?

A. No.

Q. Does it ever occur that people with mesothelioma do not have asbestosis?

A. Yes. In fact, just to elaborate a little bit, there is scarring of the pleura that occurs that I don't call asbestosis per se, I call it pleura scarring. The person can have a mesothelioma without seeing the scarring of the pleura due to the asbestos.

Q. Are asbestos-related diseases preventable?

A. Yes.

Q. How are asbestos diseases preventable?

A. Reduce or eliminate exposure to asbestos.

Q. Is the plaintiff in this case, Michael Buckley, a patient at Mount Sinai Environmental and Occupational Medicine Clinic?

A. Yes.

Q. Do you know when he was first examined at the Mount Sinai clinic?

A. In 1990.

Q. Do you recall --

A. January 23, 1990.

Q. Who examined him at that time?

A. Dr. Robin Herbert.

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Q. Did she write a report regarding Michael Buckley?

A. Yes.

Q. Have you read that report?

A. Yes.

Q. Is she a colleague of yours?

A. Yes.

Q. Is that a report of the type reasonably relied on by experts in your field?

A. Yes.

Q. Have you so relied on it?

A. Her report?

Q. Yes.

A. I have looked at it but I got my information directly from the patient.

Q. When did you examine the plaintiff, Michael Buckley, at the Mount Sinai clinic?

A. February 4, 1994.

Q. At that time did you interview Mr. Buckley?

A. Yes, I did.

Q. For how long a period of time did you interview Mr. Buckley, if you can recall?

A. I probably, all told, probably spent an hour-and-a-half with him.

Q. Did you take a medical and occupational history of Mr. Buckley at that time?

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A. Yes, I did.

Q. Can you tell us what medical history you obtained from Mr. Buckley?

A. He had no chronic medical problems that required ongoing medical attention. He had never been hospitalized or had any surgery. He took no medications at the time. In fact, he had no history of any medical problems.

Q. Did you take an occupational or work history from Mr. Buckley?

A. Yes.

Q. Would you tell us what occupational history you obtained?

A. Sure. He graduated from high school in 1972 at age 17. For the next one to two years he had various odd jobs but none involved any exposure to asbestos or toxins.

Beginning at age 19 he worked for the railroad; it wasn't Metro-North but for the predecessors of Metro-North.

From age 19 to the time I saw when him he was 39 he worked continuously for the railroad.

For the first two years at Metro-North's predecessor he worked as a carpenter assigned to a station in Stamford, Connecticut where he was mostly replacing or installing windows. He had done some cutting of railroad ties as well outdoors. He recalled -- he had no exposure to

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insulation material that he recalled when he saw me.

From age 22 to 27 his job title at Metro-North was plumber. He said most of his work involved repair of bathrooms, installing water lines, hot water heaters and the like, and most of this work didn't involve any significant exposure to any insulation material whether it contained asbestos or not.

From age 27 to age 30 he was a locomotive electrician for Metro-North. This involved inspection of locomotives and brakes. He was not directly involved with repair of those brakes. Again, he recalls no specific contact with asbestos during that time period

From age 30 to the time that I saw him, which was about a year ago, he was in the job title of plumber or pipefitter at Metro-North. This was beginning in 1985.

He was assigned to the Grand Central Terminal where he worked mainly around water, the steam mains, pipes, which ranged in sizes from half-inch pipes to 20-inch pipes that carried water and steam to heat Grand Central and the power in the neighboring buildings.

At that point Grand Central or Metro-North was undergoing significant renovation, a capital program to overhaul the pipes and the network related to steam transport.

He was involved with replacing valves and pipes.

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He would be asked to go in and actually replace whole sections of the pipe in the tunnels.

This work involved much -- most of this pipe was surrounded by insulation material. It is there to keep the steam and heat in, particularly the heat in.

He had to remove the asbestos material from the pipes prior to either performing the repair or replacing

the pipe or valve. He told me specifically he did this by hand. He had various tools like a hammer, ax or wire cutters and he would rip the asbestos containing insulation off the pipe. This produced a great deal of dust. Some of it was in asbestos brick form but most of it was asbestos plaster-like material adherent to the pipes and valves. He said it produced a great deal of dust.

He also had to clean up the debris that he created before he would actually do the job. All of this was in the dry asbestos state. It wasn't wet down which would reduce dust levels. He said that he -- excuse me.

He said that he would be covered head to toe with a white dusty material from the insulation material. He and his co-workers apparently labeled themselves as snowmen because this was their appearance after doing this kind of work. He would stay in that area -- this would take about one to two hours per day on average, sometimes it was an hour, sometimes it was three or four hours a day, this kind

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of asbestos rip out and sweeping up the debris and then do the other part of his job which was the repair or replacement.

He would be working in this dirty field throughout the day because the asbestos remained in the area even after being swept up and removed.

He described being able to taste insulation material at the end of the day and it would get into his nose and

ears. He wasn't provided with a mask and took no precautions and wasn't aware that this was hazardous work. This occurred from 1985 to early 1988 at which point he was taken off of the asbestos removal. It was farmed out to a company which specialized in asbestos removal and, therefore, he returned to his job as plumber pipefitter.

He received some training and a respirator and went back to doing his repairs, replacement, but not specifically the removal of the asbestos.

Q. Doctor, did you conduct an examination of Michael Buckley at the time?

A. Yes, I did.

Q. What did the examination consist of?

A. It was a standard physical examination. I really concentrated on the areas that I would expect to be related to asbestos meaning the appearance of the fingers, the mouth and the lungs. It was normal. He was fine.

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Q. Did you order any tests?

A. Yes. I ordered spirometry which is breathing tests and a chest x-ray.

Q. Was there anything unexpected about the findings of those tests?

A. No. The breathing was normal and the x-ray was normal.

Q. Were those the standard tests that are given for patients with a history of asbestos exposure?

A. Yes.

Q. Doctor, are you familiar with the various types of asbestos that are in the workplace?

A. Yes.

Q. What are the various types of asbestos in the workplace?

A. Chrysotile is the major one that has been used in insulation material in this country. Other types include amosite, crocidolite, anthophylite. These are the major types.

Q. Do all types of asbestos cause disease in humans?

A. Yes.

Q. Doctor, did you review any documents concerning the presence of asbestos in Grand Central Terminal?

A. Yes, I did.

Q. Would you just refer to the titles of those

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documents; for example, Doctor, what has been marked as Exhibit 2403 in this trial is the report of

the Metro-North asbestos consultant by the name of Environmental Health Protection Consultants?

A. Right. I don't have it up here.

MR. LANDMAN: Your Honor, may we approach, please?

THE COURT: Yes.

(Continued on next page)

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(In the robing room)

MR. LANDMAN: We have a report that was turned over in this case with respect to what Dr. Markowitz would testify about.

Based upon that report we didn't take his deposition because it was basically that plaintiff is fine and that is the end of the story.

He did an exam and he says he has an increased risk because of this asbestos exposure and talks about what history he got. There is nothing in this report that says anything about -- that Dr. Markowitz was going to review or had reviewed any records from Grand Central, that he had ever gone there or was going to offer any opinion whatsoever about the asbestos at Grand Central. Their next witness is going to

do that. But I think it is very unfair at this stage to have a trial by ambush since we were not disclosed any of this information. We are getting into an area that wasn't disclosed. Here is the report.

MR. GOETSCH: Your Honor, I was simply asking him whether he had reviewed documents.

THE COURT: That wasn't suggested in the report?

MR. GOETSCH: It was not stated in his report.

THE COURT: Was it suggested in his report?

MR. GOETSCH: No, it wasn't.

THE COURT: Was it suggested? Would anyone

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reading that report have assumed that this question might be asked?

MR. GOETSCH: Well, he gave the opinion that there was asbestos.

THE COURT: Would you answer my question? Would anyone reading this report get the impression that this question was going to be asked?

MR. GOETSCH: Not directly, your Honor.

THE COURT: Then it is excluded.

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(In open court)

THE COURT: You may proceed.

BY MR. GOETSCH:

Q. Doctor, based on Mr. Buckley's physical examination, his medical history and occupational history that you took from him, do you have an opinion as to whether he was exposed to a significant amount of asbestos while working at Grand Central Terminal from June of 1985 to June of 1988?

MR. LANDMAN: Objection; calls for complete speculation.

THE COURT: You can cross-examine him.

THE WITNESS: Yes. I believe he did have a significant amount of exposure to asbestos on a daily basis for two-and-a-half years.

Q. Do you have an opinion as to whether Mr. Buckley has inhaled or ingested into his lungs a harmful amount of asbestos fibers?

A. I believe he has.

Q. Doctor, is it more likely than not that Mr. Buckley's inhalation or ingestion of those asbestos fibers into his lungs has initiated any biological changes in his lungs?

A. I believe that it is likely that it has -- he has had some reaction.

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THE COURT: You have -- we lawyers like to use big words. Do you have an opinion with a reasonable amount of medical certainty that this --

THE WITNESS: I think it is more likely --

THE COURT: That is the not question; with a reasonable amount of medical certainty that it has happened.

THE WITNESS: I think there is a reasonable --

THE COURT: Yes or no?

THE WITNESS: Yes.

Q. Would you explain the basis of your opinion, Doctor?

A. The inhalation of asbestos fibers into the lungs -- the fibers reside in the lungs. We don't see disease that we can detect for usually 15 or 20 years.

Presumably there is a tissue reaction to those fibers in the lungs once they are inhaled. Now, the exact timing and nature of those findings in that window of time is not exactly known. We don't biopsy, take pieces of lung, from people exposed to asbestos who are perfectly healthy, say one or two or three years after they were first exposed.

We do, however, have animal experiments in which animals are either given asbestos usually through inhalation or it is put directly into the trachea and those animal studies do show biological changes within a matter of days after exposure to asbestos.

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Q. What type of biological changes are shown?

A. Well, the defense system of the body is activated. There are cells called macrophages which are in the lungs normally. Those attempt to ingest and detoxify the asbestos fibers.

It is thought that once those -- it is documented through animal studies that once those macrophages become activated that they give off certain enzymes which cause other tissue reactions, that they produce active oxygen species which cause, again, tissue reactions or some damage locally and other kinds of reactions locally.

The macrophage seems to be the center of the most activity within the lung parenchyma. There are other cells that line the alveoli that appear to become involved. Fibroblasts are cells that create fiber or scars.

We have fibroblasts throughout our body. They are useful because scars are useful in terms of wound repair. They produce the scars in the interstitial, in the space between the sacs where air exchange occurs. These are some of the changes that occur.

THE COURT: Incidentally, the witness doesn't know our tribal customs and you shouldn't hold it against him. We don't hold it against the witness if he doesn't know our tribal customs.

Q. Doctor, do you have an opinion to a reasonable

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degree of medical certainty as to whether Michael Buckley has a significant risk of developing asbestos-related diseases as a result of his exposure as a Metro-North pipefitter in Grand Central Terminal from June of 1985 to June of 1988?

MR. LANDMAN: Objection. May we approach on this?

THE COURT: Yes, certainly.

(In the robing room)

MR. LANDMAN: The issue in this case is whether or not it is more likely than not that the plaintiff will suffer in the future an asbestos-related disease.

The question that has now been asked is whether or not there is a significant risk which doesn't answer the question. It isn't helpful to the jury deciding this case or for the court in deciding whether this should go to the jury.

The question is within a reasonable degree of medical certainty does Mr.

Buckley have a reasonable -- is it more likely than not that he will develop a asbestos-related disease.

THE COURT: I don't see what that has to do with this case.

MR. LANDMAN: It doesn't, but it goes to the reasonableness. I don't see that any of this has to do with

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the case. They haven't shown a severe emotional injury. They don't have a psychiatrist or any evidence. That is a separate issue. But to ask does he have a significant risk is not advancing this case at all.

MR. GOETSCH: It is his fear of developing.

THE COURT: His fear but whether it is a reasonable fear, I don't know if that is even --

MR. GOETSCH: That is exactly what I am getting at.

THE COURT: I don't think that is reasonable. Does he have a fear?

MR. GOETSCH: Yes, but the doctor -- he has to have a medical basis for having a fear, your Honor.

THE COURT: He doesn't have to have a medical basis for having a fear. Why he was

told all of this, I don't know. That gave him the fear. Why he was told all of this except for this lawsuit, I can't imagine. I can't imagine a doctor scaring the hell out of a patient just for the hell of it.

MR. GOETSCH: The issue that the plaintiff has to prove is whether he has a reasonable belief, a reasonable foundation to believe and to be --

THE COURT: I don't see why they have to prove that. If they scared the held out of him --

MR. LANDMAN: It is a two-part test. One part is

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his fear. Does he have a severe emotional injury; that is the first question.

The second question is even if he does, which I don't think there is any evidence of, but even if he does, is it based upon a reasonable probability that he is going to develop this disease; otherwise, we are just in a complete world of speculation.

THE COURT: That is true. What question --

MR. LANDMAN: I think the question should be, is it, based upon a reasonable degree of medical certainty, is it more likely

than not that Mr. Buckley will develop an asbestos-related disease in the future.

MR. GOETSCH: I think the question really is, what is his risk of developing asbestos-related disease in the future.

THE COURT: That is the question he is asking. Then you can ask him the percentage.

MR. LANDMAN: But not the question that was asked which is does he have a significant risk because that doesn't mean anything, significant. To.some people one percent is significant, to other people it would have to be more than that.

MR. GOETSCH: I can ask him if he has a risk of developing asbestos-related disease. You are just objecting --

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MR. LANDMAN: To the word "significant."

MR. GOETSCH: Dr. Nicholson is the risk assessor and he will quantify it.

MR. LANDMAN: All you are going to ask him is does he have a risk.

MR. GOETSCH: I will not ask him to say 1 percent, 50 years, without him saying what the percentage is, it doesn't seem probative.

THE COURT: We all have a risk. There is a risk of my getting --

MR. LANDMAN: Every one of us.

MR. GOETSCH: That is why I asked, is there a significant risk.

THE COURT: What does "significant" mean? I think he has to quantify it to make it meaningful. Significant may mean one thing to you, another thing to me. If he can't quantify it, then don't ask him.

MR. GOETSCH: I can ask him whether he has a risk and then --

THE COURT: No, you can't.

MR. GOETSCH: First I have to ask him if he has a risk and then ask him what is the amount of risk that he has.

THE COURT: All right.

MR. LANDMAN: Yes.

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THE COURT: Can you say with a reasonable degree of medical certainty what the amount of the risk is.

MR. LANDMAN: Exactly.

(Continued on next page)

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(In open court)

BY MR. GOETSCH:

Q. Doctor, do you have an opinion to a reasonable degree of medical certainty as to whether Michael Buckley has a risk of developing asbestos-related diseases as a result of his employment as a Metro-North pipefitter at Grand Central from June of 1985 to June of 1988?

A. Yes, he certainly has a risk of asbestos-related diseases from that exposure.

Q. Doctor, will you quantify to us to a reasonable degree of medical certainty the amount of that exposure that Mr. Buckley has incurred?

A. The amount of the exposure?

Q. The amount of the risk that Mr. Buckley has incurred.

A. I don't engage in quantitative analyses about this. I believe the risk is significant.

MR. LANDMAN: Objection.

THE COURT: Significant is a word that doesn't mean anything to us.

THE WITNESS: I think that, Judge, based on similar patients I have seen or patients I have

seen in similar kinds of exposure settings, I think that --

MR. LANDMAN: Objection. I don't think we are getting into a reasonable degree of medical certainty here.

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MR. GOETSCH: He is answering the question. He is quantifying the amount.

THE COURT: See if you can quantify the amount. Does he have a 50 percent risk?

THE WITNESS: No. I would say it is 1 or 2 or 3 percent risk of all of the diseases that he wouldn't have had had he not been exposed to the asbestos. It is in that range. It is not zero. It is not 10 percent.

Q. Does that amount of increased risk include mesothelioma cancer?

A. Yes.

Q. Does it include lung cancer?

A. Yes.

Q. Does it include scarring of the lungs?

A. Yes. Actually, I think it is quite likely that he will get some scarring of the pleura, and I wouldn't say

that is 1 or 2 or 3 percent. I would say that is probably, I would guess, 10 percent.

Again, given two-and-a-half years of daily exposure, I would say under those circumstances a minimum of 1 out of every 10 people would develop scarring of the pleura; not necessarily the lungs themselves also but of the pleura.

Q. How does the amount of increased risk of mesothelioma compare to the amount of lung cancer?

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A. Lung cancer risk relates to, not just to the asbestos but to the cigarette smoking, and he has a history of cigarette smoking although he has stopped.

I would say that his risk of mesothelioma is somewhat higher than his risk -- the excess risk of lung cancer from asbestos. That assumes that he continues to stop smoking cigarettes or essentially stops smoking cigarettes.

Q. Is mesothelioma cancer caused by smoking cigarettes?

A. No, it is not. When I talked about smoking cigarettes, I was talking about lung cancer, not mesothelioma.

Q. Is his increased risk of mesothelioma affected by his smoking cigarettes?

A. No. Mesothelioma has nothing to do with smoking cigarettes.

Q. Did he have a history of smoking cigarettes?

A. Yes.

Q. What was his history?

A. He smoked from 17 to 37, less than a pack a day on average.

Q. Was he given any advice about smoking cigarettes at the Mount Sinai clinic?

A. Yes.

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Q. What was he advised?

A. I advised him to not take up cigarette smoking again. He had been off cigarettes for a couple of years by the time I saw him.

Q. Is cigarette smoking addictive, Doctor?

A. Yes.

Q. What happens to the risk of developing cigarette smoking disease when a smoker reduces his smoking to less than one cigarette a day?

A. The risk of any of the cigarette smoke-related diseases decreases with time, as soon as you stop smoking.

It takes quite a while -- it takes years before it disappears or gets down to background level, but it does

begin to decrease when you stop. That is true of lung cancer and well as emphysema.

Certainly, the progression of the emphysema is not as bad as if the cigarette smoking were continuing.

Q. When the amount of smoking is less than one cigarette per day how much risk of cigarette-smoking disease does that present?

A. Then it is based on what the history was. In other words, if he smoked for 20 years less than a pack a day, that becomes determinative of his smoking risk in the future.

Once he stopped, then he doesn't -- he gets no

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extra risk from the cigarette smoking because he stopped, less than one a day -- one cigarette a day, right?

Q. On average, less than one cigarette a day.

A. Right. That is essentially equivalent to stopping.

Q. Is it your understanding, Dr. Markowitz, that currently Mr. Buckley has reduced his smoking to less than one cigarette a day?

MR. LANDMAN: Objection. Where is the foundation for that?

THE COURT: Sustained.

Q. Doctor, from your point of view as a medical doctor, has Mr. Buckley taken reasonable steps to reduce his risk of developing cigarette-smoking disease?

A. Yes. He stopped smoking cigarettes two years before I saw him.

Q. As far as smoking less than one cigarette a day on average, is that the equivalent of stopping smoking?

A. That is what I mean. If a person smokes a cigarette now and then, I advise him not to, but it doesn't add up to much risk. To go from less than a pack a day to sneaking a cigarette now and then is a significant change.

Q. Doctor, what effect does smoking less than one cigarette a day have on Mr. Buckley's increased risk of developing asbestos-related lung cancer?

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A. Could you repeat the question?

Q. What effect does smoking less than one cigarette a day have on Mr. Buckley's increased risk of developing asbestos-related lung cancer?

MR. LANDMAN: Objection, since the question leaves out the 20 years of smoking history that he had before that so it assumes facts not in evidence.

MR. GOETSCH: I asked him about Mr. Buckley and Mr. Buckley had a previous history of smoking and I asked what effect hav-

ing less than one cigarette a day would have on Mr. Buckley's --

THE COURT: Technically, that is improper because there is no evidence that he is smoking less than one a day, however, I will let you assume he is smoking less than one a day and if it turns out on the evidence that he isn't, you can disregard the answer.

MR. GOETSCH: Thank you, your Honor.

THE WITNESS: Could you repeat the question?

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Q. Taking Mr. Buckley, what effect does smoking less than one cigarette a day have on his increased risk of developing asbestos-related lung cancer?

A. One cigarette a day or less than one cigarette a day does not meaningfully increase his risk. His cigarette smoking-related risk is determined by the 20 years that he smoked at close to a pack a day. It is not determined by ongoing exposure of one or less cigarettes per day. It is just not meaningful, that kind of continued exposure.

Q. Doctor, what is the total cost of Mr. Buckley's asbestos tests and examination conducted at Mount Sinai up to the present?

MR. LANDMAN: Objection. For the purpose of this lawsuit, why is it relevant?

THE COURT: Let me have the question read, please.

(Question read)

THE COURT: I don't see what is wrong with that.

MR. LANDMAN: You know what, your Honor? I will withdraw my objection. That is fine.

MR. GOETSCH: Thank you.

A. It is, oh, $1,080. That is for two examinations, 1990, 1994, including chest x-ray and the breathing tests.

Q. Dr. Markowitz, have you advised Mr. Buckley to undergo periodic medical surveillance in the future?

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A. Yes.

Q. Do you have an opinion to a reasonable degree of medical certainty as to whether he will incur any future medical expenses as a result of undergoing such periodic medical surveillance in the future?

A. Yes. Assuming that he undergoes a periodic checkup for asbestos-related disease, he will incur some expense.

Q. What is the medical test and examination that you recommend Mr. Buckley should undergo in the future for his medical monitoring?

A. Annually, he should have a medical exam, and physician counseling, basically, pulmonary pump testing, chest x-ray. At some point the chest x-ray could go every other year instead of every year but for the time being it should be a year. Than he should have signoidoscopy, which looks at the large intestine in the colon to test for colon cancer. That need be on a two-year basis at beginning age 45. He also needs a test of stool for blood, which is a minor test.

Q. Doctor, what is the reasonable annualized cost in today's dollars for such periodic examination and tests?

A. Well, annualized --

THE COURT: What is the basis of his expertise as to what other doctors charge?

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MR. GOETSCH: We are talking about the charges at the Mount Sinai Clinic, your Honor.

A. Taking the sigmoidoscopy, which is expensive, about $600, and dividing it in 2, because it is only once every other year and not every year, the annual charge would be about $950, somewhere in that range, $900, $950.

Q. And that is taking all the tests over a two year period and averaging the cost over each two-year period?

A. Per year, right.

Q. Do you have an opinion as to whether Michael Buckley should continue to undergo such medical monitoring for the remainder of his life?

A. Yes. He began exposure at age 30, and his period of risk will peak for the cancers at age 50, 60, 65. So certainly he needs to continue testing for the foreseeable future.

Q. Doctor, does Michael Buckley have, in your opinion as a medical doctor, a reasonable medical basis to fear that he will develop asbestos-related disease in the future?

MR. LANDMAN: Objection. He has already testified about what the increased risk is.

THE COURT: Objection sustained.

Q: Doctor, assuming that Mr. Buckley had the statistical future life expectancy of 36.5 years, is it your

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opinion that he will have to undergo this medical monitoring for the rest of his statistical life?

A. Yes. In particular, we expect improvements in medical monitoring in the coming years, not to mention decades, so that it will be even more useful in the future.

MR. GOETSCH: Thank you. No more questions at this time.

THE COURT: Are you ready to start?

MR. LANDMAN: I can. I don't know if the jury needs a break, five minutes or whatever. It is up to your Honor. I can start now.

THE COURT: You can?

MR. LANDMAN: Yes.

THE COURT: Do you need a break? OK, start.

CROSS-EXAMINATION

BY MR. LANDMAN:

Q. Doctor, this isn't your first asbestos case you have testified in, is it?

A. No, it is not.

Q. How many cases have you reviewed that were sent to you by lawyers?

A. Individuals, over a hundred, but I don't know beyond that.

Q. And 25 percent of your income, doesn't it, Doctor, comes from asbestos litigation?

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A. That was true of '93. I don't know about '94. It wouldn't be any more than that in '94. I think it might be less.

Q. How many times did you testify in 1994?

A. I believe it was three times.

Q. With respect to generally how many hours you spent preparing to testify, in this case you first were sent Mr. Buckley and examined him; is that right?

A. That's right.

Q. And you wrote a report?

A. Yes.

Q. What did you charge for all of that?

A. I believe it was $175.

Q. That was for examining him?

A. And the report.

Q. So that wasn't $300 an hour?

A. That's correct.

Q. Do you charge $300 an hour when you are testifying?

A. Actually, usually, when I examine the patient, but I notice in going over the bills he was billed at $175 for a new visit. The report wasn't --

Q. That was a mistake?

A. It was whatever it was. I don't know what it was.

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Q. Usually you charge more than that, is that right?

A. $300 an hour.

Q. What is the last time you testified in an asbestos case?

A. I believe it was June of '94. It was sometime in '94.

Q. And when is the next time you are going to?

A. I have no idea. There is nothing on the calendar.

Q: You end up testifying in about half the cases you review, isn't that right?

A. That sounds about right.

Q. Have you ever testified, Dr. Markowitz, in a case before this one where the person had absolutely no asbestos-related disease, in an asbestos case?

A. No clinically recognizable disease? No.

Q. So this is unique for you?

A. That's correct.

Q. And you reviewed, as of 1993, which is a year and two months ago, over a hundred cases, isn't that right, that were sent to you by lawyers?

A. Yes. It sounds right.

Q. How many were sent to you in 1994?

A. Ten, I would guess. I don't keep the numbers.

Q. How many have been sent to you so far this year?

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A. None.

Q. You have never actually reviewed cases that were sent to you by defendant in a lawsuit because no defendant ever sent you a case, isn't that right?

A. Not in asbestos. I have a different hazardous-waste exposure but not asbestos.

Q. What kind of injury is alleged in that case, the hazardous waste case?

A. Some neurologic syndrome.

Q. Neurologic?

A. Correct.

Q. So you have gone out and solicited work from plaintiff lawyers but not from defense lawyers, isn't that right, with respect to asbestos litigation?

A. I wouldn't use the word "solicited."

Q. What word would you use?

A. I wrote a letter in 1988, when I began to do this, saying that I was aware of the need and that I was available to review cases, examine people, and write reports, and testify.

Q. That there was a need for what?

A. There that there was a need for an expert witness, an expert judgment about whether someone had an asbestos-related disease and a willingness to appear in court.

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Q. The law firms that you wrote were three of the firms in the United States that represent employees that are suing about asbestos injuries, isn't that right?

A. That's correct.

Q. And one was in South Carolina?

A. Correct.

Q. One was in Washington, D.C. and one was here in New York City, isn't that right?

A. Correct.

Q. In fact, the one you wrote in New York City sent you about half the work you get, isn't that right?

A. In the ensuing years, that's true.

Q. Who is Dr. Stephen Levin?

A. He is a colleague at Mount Sinai.

Q. What does he do?

A. He is director of our occupational health clinical center.

Q. Do you work for him?

A. No.

Q. Did you in 1988?

A. No.

Q. So he is the director of this whole occupational clinic?

A. He is the director of the clinic, not of the division.

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Q. And he is the one who told you, "Dr. Markowitz, why don't you get in on this, why don't you write some letters to these lawyers and they will use you to testify"?

A. Well, it didn't exactly go like that.

Q. How did it go?

A. He and others had made me aware for a number of months before this that there was a need for people who would review cases, examine people and appear in court. I wasn't interested for a while. Then after a period of time I decided I had the relevant expertise, and I think I asked him how to get involved, and he may have said -- I think he probably said, "Why don't you just write a letter to certain law firms."

Q. And from that you have now made 25 percent of your income?

A. Well, that was true in 1993. That wasn't necessarily true before that or since that time.

Q. I would like to show you what has been marked as Defendant's Exhibit A. If you could, Dr. Markowitz, could you just tell me, are those three letters dated February 17, 1988, the letters you wrote with respect to this?

A. Yes. The same letter.

Q. They were written on Mount Sinai stationery, isn't that correct?

A. That's correct.

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MR. LANDMAN: I would offer these in evidence, your Honor.

THE COURT: Any objection?

MR. GOETSCH: No objection.

THE COURT: Received.

(Defendant's Exhibit A was received in evidence.)

Q. Dr. Selikoff, whom you talked about a little bit this morning, never testified in an asbestos case, did he?

A. Not that I know of.

Q. Do you know Dr. Nicholson?

A. Yes.

Q. Who is he?

A. He is also a colleague at Mount Sinai, in the Division of Environmental and Occupational Medicine.

Q. Who got you in on this case? Did he get you in or did you get him in?

A. I think it was neither.

Q. Did you at some point in time learn that Dr. Nicholson was also going to be an expert in this case?

A. That's true.

Q. When did you learn that?

A. I don't recall. It was sometime after I was asked whether I wanted to see one or more patients from this group. But it was sometime after that, I don't recall when.

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Q. And Dr. Nicholson came and sat in on the exam you did of Mr. Buckley, is that correct?

A. That's correct.

Q. How often do you and Dr. Nicholson work together?

A. We work together on -- he helped me with the study of bladder cancer in northern New York, but specifically, beyond that, I don't think we have worked together in terms of research.

Q. In the bladder cancer, that was also in connection with litigation with respect to a chemical plant, is that right?

A. No, it wasn't.

Q. What were you studying?

A. There is a chemical factory in Niagara Falls that used orthotoloudine which was known as the cause of bladder cancer in animals, and I went up there actually to educate people, and I found seven cases of bladder cancer among the work force and subsequently worked with NIOSH to document the outbreak of bladder cancer.

Q. Who paid you for that?

A. I wasn't paid for that.

Q. You weren't paid for that work?

A. No.

Q. Who paid Mount Sinai?

A. This was '89? I was mostly covered under

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educational grants to teach.

Q. You only see patients about 10 percent of your professional time, is that right?

A. That's right.

Q. About half a day a week?

A. Correct.

Q. And you see patients with repetitive motion injuries?

A. That's correct.

Q. Such as keyboard operators and things like that?

A. That's correct.

Q. Have you been asked to testify in some of those cases?

A. I was deposed in one case.

Q. You also see people who claim exposure, you said, to chemicals, is that correct?

A. That's correct.

Q. And pesticides?

A. That's correct.

Q. And carbon dioxide solvents?

A. Correct.

Q. And lead poisoning?

A. That's right.

Q. Mercury?

A. Correct.

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Q. Arsenic?

A. Occasionally.

Q. Cadmium?

THE COURT: Arsenic? What about old lace?

Q. Old lace?

A. No. No such luck.

Q. Cadmium?

A. Rarely, but. I think I have seen it.

Q. And also people claim about asthma?

A. Correct.

Q. Through work exposure?

A. Correct.

Q. And also occupational dermatitis?

A. Occasionally.

Q. That is skin rashes and things, isn't that right?

A. That's right.

Q. And obviously these exposure don't always affect the lungs, isn't that right?

A. That's correct.

Q. A number of them affect the brain or the neurological system?

A. That's correct.

Q. And some, as you said, affect the skin and some affect the musculoskeleton, the bones, isn't that right?

A. That's right.

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Q. And for solvents, for example, the exposure affects, you claim, the neurological system, the nerves?

A. It can.

Q. You are not a lung doctor, are you?

A. Excuse me?

Q. You are not a lung doctor, you are not a pulmonologist?

A. That's correct.

Q. What is a pulmonologist? Why don't you tell the jury.

A. A physician trains for three years of internal medicine and then an additional two years in pulmonary medicine, and then they take the board examination in pulmonary medicine and become a board-certified pulmonary specialist.

THE COURT: Pulmonary meaning lung?

THE WITNESS: Lung, that's correct.

Q. You don't treat people for lung cancer, right?

A. That's correct.

Q. If people have lung cancer, you would send them to a pulmonologist?

A. No, I would send them -- well, it depends. Either a lung doctor or a cancer doctor, an oncologist.

Q. Doctor, you referred, I believe, to some animal studies that you participated in that, you say, show some

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tissue reaction when the animals are given asbestos. Is that right?

A. I have not participated in those, but I read about them.

Q. Can you give me the names of those studies and where they are published?

A. Not specifically here, but I can provide them afterwards if you like.

Q. Why don't you bring those in tomorrow when you come in, the ones that support your position that if you give animals asbestos, they develop changes right away.

A. Sure, if you want.

Q. How much asbestos was given to those animals?

A. I don't recall. It was high doses, but I don't recall.

Q. OK. We can deal with that tomorrow.

Everyone in any urban environment has some asbestos exposure, isn't that right?

A. That's right.

Q. Most of those people don't get asbestos disease, do they?

A. That's correct.

Q. We have defense mechanisms to protect the lung, don't we?

A. That's correct.

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Q. And you talked a little bit about the mucociliary escalators, that is one of the defense mechanisms. Is that correct?

A. That's correct.

Q. And the macrophages are another defense mechanism that you mentioned?

A. That's correct.

Q. So the macrophages actually help, if you breathe in a small amount of asbestos, help to take care of that in the lung, isn't that right, by putting enzymes on it?

A. That's the attempt.

Q. Now, the smoking actually inhibits the mucociliary escalator, doesn't it?

A. Correct.

Q. How does it do that?

A. I don't know the mechanism, but we know that it is, through the time period, toxic to the cilia. The cilia are tiny little hairs in the windpipe that don't beat the way they normally do, don't wave the way they normally do.

Q. In general, the risk of lung cancer from asbestos is a dose response, isn't that right?

A. That's correct.

Q. In other words, the more you get, the worse the problem?

A. The higher the level of exposure, the greater

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risk of lung cancer.

Q. Do you agree that you need to have underlying asbestosis before asbestos exposure can be attributed as a causal factor in connection with the development of lung cancer?

A. No, I don't think there has been enough proof of that.

Q. But a number of people do hold that, including such people as Andrew Churg, is that correct?

A. That's correct.

Q. Who is Andrew Churg?

A. He is a pathologist at the University of British Columbia who has done a lot of work with cancer-related pathology.

Q. He has written a textbook on this?

A. That's correct.

Q. You haven't written any textbooks on this?

A. That is also correct.

Q. You haven't written any chapters on asbestos, have you?

A. No, I haven't.

Q. Do you know Dr. Casey Morgan?

A. I know that he is a coauthor of an occupational lung disease test.

Q. Do you know how many books and chapters in

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textbooks he has written on occupational lung disease?

A. No.

Q. Do you know how many articles and books he has written on asbestos?

A. No.

Q. Would you agree that he is one of the world's leading experts on this subject?

A. I thought his strong point really was coal workers pneumoconiosis and silica rather than asbestosis.

Q. Why don't you tell the jury what pneumoconiosis is?

A. Coal inhalation is a dust disease of the lung and we call it coal workers pneumoconiosis. We don't see it in this part of the country, but I believe Dr. Morgan has been involved in the study of that for many years, and the silica causes, again, the pneumoconiosis, in this case a scarring of the lung caused by silica.

Q. So it is similar to asbestos in the sense that you breathe in a dust and it causes scarring to the lung which results in disease, is that right?

A. To that extent, yes.

Q. Do you have his book in your library?

A. Yes.

Q. How many of his books do you have?

A. I have one book by him.

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Q. Is it something you refer to periodically?

A. Not the asbestos chapter but for other things I have. For coal I have, and for silica.

Q. It is true, isn't it, Doctor, that a substantial body of opinion in the published medical literature disagrees with you and states that asbestosis is necessary before you can draw a cause-and-effect relationship between lung cancer and a preceding asbestos exposure, isn't that true?

A. That opinion has been stated in the literature, correct.

Q. A substantial body of that opinion?

A. A fair number of people, yes.

Q. Dr. Jurg's book, "Modern Pathology," you actually have that book in your library also, don't you?

A. That's correct.

Q. And you refer to that on occasion?

A. I have.

Q. Now, we were talking about smoking and the smoking risk. Let's go back to your report which you have in front of you. What I want to know is precisely what it is Mr. Buckley told you about his smoking history when he came to see you, and give us the date again, if you would.

A. February 4, 1994.

Q. OK.

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A. He quit cigarettes two and a half years ago. He said he smoked less than one pack per day starting age 17.

Q. He told you less than one pack a day?

A. That's correct.

Q. Would your opinion change at all in this case if you knew he actually smoked at least one pack a day for that twenty-year period?

A. No.

Q. Did he tell you when he saw you that he was actually smoking one cigarette a day?

A. I don't recall.

Q. Well, you didn't write that down?

A. That's correct.

Q. Doctor, do you know many people, based upon your seeing what you say are patients or clients or whatever --

A. Patients.

Q. Patients. Well, this particular patient was sent by a lawyer, isn't that right?

A. He is still my patient.

Q. Was he sent by a lawyer?

A. Yes.

Q. Mr. Goetsch.

A. Correct.

Q. When he was sent there in 1990 to your colleague, he was also sent there by Mr. Goetsch, isn't that right?

A. I believe so.

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Q. And both exams were completely normal, is that right?

A. That's correct.

Q. You did pulmonary function tests and they were normal?

A. Yes.

Q. And you did x-rays and they were normal?

A. Correct.

Q. Doctor, usually when you testify in these cases you bring in the x-rays, don't you?

A. No, it depends on the disease.

Q. Well, if it is a lung cancer case.

A. It depends on how good, you know, how clear the x-ray is. They are often not available. If they are available and they illustrate something useful, I will show them.

Q. Sometimes they are not available because you didn't actually treat the patient or see the patient?

A. That's correct.

Q. But, for example, last year when you testified in a case across the street you brought in x-rays to show the jury where the asbestos-related disease was, didn't you?

A. I don't recall the specific case, but I have brought them in with cases.

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Q. Does the Princiotta case mean anything to you?

A. Yes.

Q. Do you remember bringing in the x-rays?

A. I still don't recall. It was quite likely because I do sometimes.

Q. Doctor, there are what is called ILO standards, isn't that right?

A. That's correct.

Q. And what they do is, they mark, with respect to x-rays, what is shown on them in terms of the extent or the seriousness of the scarring, isn't that right?

A. It's the system we use to quantify the amount of scarring that we see on the x-ray.

Q. And they go from zero zero to three three?

A. Correct.

Q. And three three is the most serious, isn't that right?

A. Most advanced.

Q. The most scarring?

A. That's correct.

Q. It basically looks like bubble gum across the lungs?

A. Well, that's never occurred to me before. No, I wouldn't say it looks like bubble gum across the lungs.

Q. How would you describe it?

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A. A very dense collection of white scars, usually at the lower part of the lung fields.

Q. And the lowest is zero zero, isn't that right?

A. That's correct.

Q. And even though it is zero to three, there are actually nine different ones because you have zero zero, zero one, one one, two one, all the way up to three three?

A. That's correct.

Q. And Mr. Buckley's x-rays both in 1990 and 1994 were zero zero; is that right?

A. That's right.

Q. That means he has absolutely no asbestos-related disease?

A. That's right.

Q. And he has absolutely no pleural thickening, isn't that right?

A. That's right.

Q. Doctor, haven't you testified in the past that pleural thickening usually develops within ten years?

A. No. Usually?

Q. Haven't you taken the position that latency can be as short as five to ten years for lung cancer, Doctor?

A. It can be. It usually is not. Usually we don't see it for ten years.

Q. Doctor, have you testified in cases where you

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have actually testified that the lung cancer causally related with the latency period was less than fifteen years?

A. I don't recall. I think there may have been a case between ten and fifteen years, but it hasn't come up frequently.

Q. It came up last year in the Princiotta case?

A. It may have, but again it doesn't come up frequently.

THE COURT: Would this be a good time to break?

MR. LANDMAN: Your Honor, I was wondering, though, the letters, could I just published them to the jury? I can read them quickly before the jury goes. Would that be all right, the letter that he we introduced?

THE COURT: Yes.

MR. LANDMAN: It is two paragraphs.

THE COURT: All right.

MR. LANDMAN: Thank you. The letters are dated February 17, 1988, and they are written --

THE COURT: I understand the witness has an appointment and he doesn't have to listen to these letters.

MR. LANDMAN: The witness can go and come back tomorrow morning, I guess. Or tomorrow afternoon I guess you are coming?

THE WITNESS: Right.

THE COURT: OK. You don't have to listen to

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these letters if you don't want to.

THE WITNESS: It doesn't matter to me.

THE COURT: I understand you have an appointment.

MR. GOETSCH: What time will the witness be available tomorrow?

THE WITNESS: 12:30.

MR. GOETSCH: All right.

(Witness excused)

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DR. STEVEN MARKOWITZ, resumed.

CROSS-EXAMINATION (Continued)

BY MR. LANDMAN:

Q. Good afternoon, Dr. Markowitz.

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Just so we get everything in context, you basically started working at Mount Sinai and finished your residency in 1986, is that right?

A. I finished my residency in '86, that is correct.

Q. When did you start at Mount Sinai?

A. 1984.

Q. You finished your residency, completed your medical training in 1986?

A. Correct.

Q. By 1988 you were out requesting asbestos work; is that right?

A. I was open to the possibility of testimony.

Q. Doctor, did you bring those animal studies with you today?

A. Yes.

Q. Can I have those, please?

A. Sure. They are in my briefcase.

Q. Okay. Why don't you stay there. We will take a mid afternoon break, with the court's permission and we can get them then.

A. I can get them now. It is easy enough.

Q. Okay. Thank you.

Doctor, you agree that the smoking risk continues for at least 20 years after someone quits; isn't that right?

A. So far it has been studied to about 20 or 25

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years and it continues at least 20 years.

Q. So, in other words, in fact, you agree that the risk of developing lung cancer in an ex-smoker is still greater over the course of a lifetime than a non-smoker even 20 years or more after someone quits?

A. That is correct. It decreases at the time when the person stops, decreases compared to what it would be, but the risk is still elevated and decreases over time and appears to approach the same as background risk, the smoker risk, by about 20 percent.

Q. 10 percent of all cigarette smokers get lung cancer; is that correct?

A. That is correct.

Q. How many people get lung cancer in this country from any cause?

A. Half a million.

Q. You agree that a chest x-ray is the best method of determining whether or not someone has asbestosis?

A. It is the simplest method, and certainly among routine tests it is the best method.

Q. You are not a B reader, is that right?

A. No, I am not.

Q. Would you tell the jury what a B reader is?

A. A B reader is a physician who takes a test given by the government certifying they are an expert in reading

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chest x-rays for dust diseases of the lung.

Q. In formulating your opinion in this case, did you see a report from Dr. Frank Pernell who did a B reading of Mr. Buckley's x-rays?

A. No.

Q. But you wouldn't be surprised to know that that is an 00?

A. That was my reading as well.

THE COURT: You can read it even though you are not certified?

THE WITNESS: That is correct. I am not certified but it is part of my specialty.

Q. You just never took the test?

A. That is correct.

Q. Why don't you explain to the jury what this test consists of?

A. I don't know that much about it. It is in Morgantown, West Virginia. I think it is about four or five or six hours. It is reading x-rays and determining them according to this scale. Then there is -- they grade a certain percentage right.

Q. Doctor, you agree that lung cancer is the leading cause of cancer death in the United States in men?

A. Correct.

Q. 100,000 men die of lung cancer each year?

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A. 100 what?

Q. 100,000.

A. I think more than that, actually.

Q. 350,000 people die each year due to smoking in this country?

A. Roughly.

Q. 85 to 90 percent of lung cancer cases are due to smoking?

A. In that range.

Q. How many men do die each year of lung cancer?

A. I thought it was 110, 120,000; in the same range.

Q. More people die in this country from smoking than die from automobile accidents, homicides, AIDS, put together; isn't that right?

A. Correct.

Q. Smoke induced diseases are the most preventable diseases in this country, isn't that right?

A. It is the most preventable common disease. There are a host of diseases that are preventable. Smoking-related diseases are among them.

Q. Your lung cancer risk is higher if you start smoking at an earlier age?

A. That's true.

Q. As early as 1979 the Surgeon General said that typically a one-pack-a-day smoker takes in between 50,000

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and 70,000 puffs; isn't that right?

A. I wouldn't know that number.

Q. How many puffs do you think a smoker takes, in if you know?

A. I don't know.

Q. Doctor, tobacco smoke, you agree, is a unique chemical with over 1500 known chemical compounds in it?

A. It is not a chemical.

Q. It has 1500 chemical compounds in it?

A. That is correct.

Q. Just tell us what chemical compounds are.

A. These are unique chemical substances. They have their own chemical formula and presumably their own behavior.

Q. By 1989, at least, 43 of those were found to have been carcinogenic?

A. I don't know the exact number. Numerous have been found to be carcinogenic.

Q. That means they cause cancer?

A. That is correct.

Q. The duration of smoking, how long you were a smoker, is more important than how intense a smoker you are, isn't that correct?

A. I know duration is important but I don't know relative to intensity at any given duration. I don't know

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how they compare.

We usually look at smoking history in pack years which is the duration and intensity combined. One pack per day for 40 years is 40 pack years, 2 packs per day for 40 years is 80 pack years. That is the usual measurement we use for smoking.

Q. In other words, smoking over a longer period of time is more important than how much you are smoking at a given time but they are both important, would you agree with that?

A. No. I agree that both are important. I don't know, as I said before, the relative importance of it.

Q. Doctor, you remember giving testimony in the Princiotta case last year?

A. Yes.

Q. At page 185 you were asked this question, and this testimony was given before Justice Helen Friedman on April 5, 1994, page 185:

"Q Doctor, in addition, the risk from smoking related to intensity of exposure which means the number of cigarettes smoked per day, how long you smoked but duration, has a more powerful effect, isn't that correct?

"A. More powerful than the intensity?

"Q. Than the intensity. In other words, meaning over a longer period of time is more important but

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both are important. That is more important?

"A. I believe that is true."

That is basically your testimony?

A. That is the same as my testimony today.

Q. Okay. Obviously, Mr. Buckley's smoking history is important to you?

A. Yes.

Q. Your understanding is that he was basically a one pack a day smoker for 20 years?

A. Less than one pack per day for 20 years.

Q. Then your understanding is that he quit when?

A. Two-and-a-half years before I saw him. It was a year ago so it would have been 1992 or late 1991.

Q. Doctor, have you learned since then that he has taken up smoking?

A. I have been told that he smokes one or less cigarettes per day.

Q. Is that based upon what Mr. Goetsch told you?

A. That is what Mr. Goetsch told me. That is what Mr. Buckley told me. For that matter, he may have told that to me at the time I saw him a year ago but it is not the kind of smoking I would think is important and wouldn't have written it down.

Q. When did you learn about this one cigarette a day from Mr. Goetsch?

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A. Again, I may have been told a year ago when I saw him. I don't recall then. This week I was told that he smokes a cigarette or less per day by Mr. Goetsch and Mr. Buckley.

Q. Did Mr. Goetsch come see you last week in your office?

A. No.

Q. Did he call you on the phone?

A. No. We spoke on the phone.

Q. Did he tell you over the telephone that Mr. Buckley was smoking one cigarette a day?

A. He may have. I don't. recall. He told me but I don't recall whether it was in person or on the phone.

Q. Doctor, you see a lot of people who are complaining about occupational illness, right?

A. That's correct.

Q. You take a lot of smoking histories from people, isn't that right?

A. That's correct.

Q. Do you see many people who smoke cigarettes at a rate of one per day?

A. Occasionally. Most people either smoke more or they have given up entirely, but many people, I can't give you percentages, on their way to quitting entirely take an occasional smoke.

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Q. Doctor, you know that sometimes people don't give honest histories; not because they are being dishonest but they sometimes understate their smoking; isn't that right?

A. I have no recourse to that information usually except for what the patient tells me so I wouldn't know.

Q. You know what OSHA is; isn't that right?

A. That's correct.

Q. They regulate the safety and health of workers in the United States?

A. That's correct.

Q. You are aware of the time fact that they have proposed that smoking be banned in all workplaces in the United States?

A. Something -- either a full ban or a near ban or something like that. Certainly, a big change.

Q. As an occupational specialist you are not sure if you are in favor of that?

A. Well, in principle, I am in favor of it. The question is the feasibility of getting there. Whether there is a full ban or mostly a ban, I haven't really thought through.

Q. Passive smoking increases the risk of lung cancer and other disorders?

A. That's correct.

Q. Passive smoke is what?

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A. This is considered smoking from -- excuse me, inhaling cigarette smoke from the air when you are not the active smoker, so it is being near someone in the room with someone who does smoke and breathing in the cigarette smoke that -- through that route rather than directly by taking cigarettes yourself.

Q. The studies have shown that, in fact, passive smoking, passive smoke at an early age is particularly harmful because the lungs are still growing; if your parents smoke and you are in the same room or same environment?

A. That's correct.

Q. Did you take a history from Mr. Buckley to find out whether or not his father ever smoked?

A. No. I didn't consider it relevant.

Q. Did you take a history as to whether or not his mother smoked?

A. No.

Q. Did you take a history as to whether or not his wife smokes?

A. Yes.

Q. Does she?

A. No.

Q. Why didn't you think it was relevant?

A. Because I am looking at what his current future risk is of lung cancer and asbestos-related disease, and, to

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my knowledge, passive smoking by children affects their frequency of respiratory infections, the intensity or severity of their asthma, but I am not-aware of any studies that show the exposure to passive smoke as children affects their lifetime risk of cancer, their cancer risk as an adult, which is what I was concerned about in this case.

Q. Hasn't the Surgeon General concluded that, in some respects, that passive smoke is the same as if you are smoking?

A. I don't know that particular language. Certainly, there are constituents of passive smoke that are the same as of active smoke.

Q. They both have the chemicals in it?

A. Some chemicals.

Q. They both have carcinogens?

A. Yes.

Q. Since you have already testified that you generally agree that duration is more important than intensity, wouldn't passive smoke exposure as a child add on to someone's duration of how long they have been smoking?

A. In theory, yes. My point is that the studies haven't been to show, to document that lung cancer risk extends into -- well, is expressed in adulthood from childhood exposure.

Q. Do you know whether or not Mr. Buckley's

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co-workers ever smoked at work?

A. No.

Q. You didn't ask about that?

A. No.

Q. You, yourself, don't consider passive smoking in the workplace as an occupational disease?

A. Passive smoking as an occupational disease?

Q. Yes; in the workplace?

A. Smoking is a habit, it is not a disease. I am not sure what you mean.

Q. Do you consider that passive smoke in the workplace can lead to occupational disease? In other words, if you are exposed to people smoking in your work environment, would you consider that to be something that could cause occupational disease?

A. I haven't really thought that through.

Q. You know that in 1986 the Surgeon General devoted the entire issue of the report on smoking to passive smoke; isn't that right?

A. That's correct. Some year; I don't know which year.

Q. You actually read part of that report?

A. That's correct.

Q. Doctor, isn't it true that you have said in the past that you wouldn't be surprised if some patients

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underestimated their smoking; that wouldn't be a surprise to you?

A. That would not surprise me. I don't know if I said "in the past," but it wouldn't surprise me.

Q. Doctor, the Surgeon General of the United States is -- not the name of the person -- but what generally is their responsibility as far as you understand it?

A. They are really the premiere health educator in the country.

Q. Doctor, you trained in psychology; is that right?

A. As an undergraduate.

Q. What did you tell Mr. Buckley when with you saw him, if anything, with respect to what you thought his condition was?

A. I told him that he had no -- currently had no asbestos-related disease. There was no clinical impact on his lungs that could be seen at this time but that he did have significant exposure in the past and that he had some increased likelihood of developing an asbestos-related disease in the future.

Q. Doctor, did you give him any type of quantification as to what that increased risk was at that time?

A. No. I didn't spell out that much.

Q. Why didn't you?

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A. Because, again, with patients and even yesterday here, I don't focus in on the quantitative approach. I more talk about sort of trying to find meaningful terms in terms of what kind of risk there is.

Q. You told him to make sure he doesn't smoke?

A. I told him not to resume cigarette smoking.

Q. Doctor, when you say he had significant exposure to asbestos at work, that was based on what he told you?

A. That is correct.

Q. Yesterday when you testified you said that he had one to two hours of exposure everyday on the average?

A. That's correct.

THE COURT: Let me interrupt. You used the word "patient." He didn't come to you for health advice as to what he should do? How is he your patient? Isn't a patient someone who comes to you for treatment?

THE WITNESS: He was my patient. He came to me for health advice.

THE COURT: He didn't come to you for the purpose of finding out how he should conduct himself; that wasn't your purpose?

THE WITNESS: My purpose was, in my view, was to determine whether he had any asbestos-related disease.

THE COURT: For what purpose? Not for helping him, for a lawsuit?

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THE WITNESS: No. I knew I was going to testify in a lawsuit if it ever came to that but when I saw him I saw him as my patient as a consultant and I gave him advice as to his health and how he should conduct himself in the future. I couldn't do otherwise as a physician.

Q. Let me make sure I understand. Whenever a lawyer sends someone to you, you count that person as a patient?

A. That's correct. I am not his primary care physician, I am not the person who provides ongoing care, but it is a clinical consultation and I give him expert advice about what he has and what he should do.

Q. With respect to his occupational exposure, you didn't factor in at all the fact that he was sent by a lawyer and he already had a lawsuit pending and obviously he wanted to -- it would be in his interest to maximize his exposure; you didn't consider that at all, did you?

A. Again, my information about how much -- his work habits were coming from him. I have no independent

confirmation of that. That is always the way it is with patients.

In this case I got some other information about there being 10 percent or 15 percent or 20 percent of some bulk samples taken from the tunnel.

Q. I am focusing on his work, his job.

A. I am answering the question. There was a certain

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percentage of asbestos in the products he worked with. The information I get is from him. That is true of any patient.

Q. Right, but have you ever had a situation where someone who was a plaintiff in a lawsuit came and talked to you not as strictly for clinical treatment or anything but as a plaintiff where they misled you at all?

A. There was one patient, I don't know if he misled me, but there was one patient who came to me, who was sent by a lawyer, this was several years ago, who told me one thing and called me up a day or two later and changed that particular number or line. I don't recall the details. That is the only time it ever happened to me.

Q. Do you know if one of Mr. Buckley's jobs was to do any type of inspections at Grand Central Terminal?

A. Before 1985 his job did involve inspection.

Q. From 1985 to 1988?

A. From '85 through '88 I was told that it was mostly or fully repair work or replacement of pipes and related materials.

Q. You were told that it was mostly ripping out pipe insulation in old pipes or installing new pipes; is that right?

A. Pipes, flanges, valves and assorted material. That was his dominant activity for at least two-and-a-half years.

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Q. You have psychiatrists and psychologists and social workers at Mount Sinai; isn't that right?

A. That's correct.

Q. Are there any in the occupational medicine group?

A. There is a social worker.

Q. When you saw Mr. Buckley and met with him, Dr. Nicholson was there also?

A. That's correct.

Q. You didn't refer Mr. Buckley to a psychiatrist, did you?

A. No.

Q. Did you refer him to a psychologist?

A. No.

Q. Did you refer him to a social worker?

A. I don't believe so.

Q. You have, in the past, when you have seen patients, patients, made referrals to those types of people, haven't you?

A. Occasionally to social workers, never formally to a psychiatrist and I don't believe to a psychologist either.

Q. You know that your colleagues that are treating sick people, for example, colleagues that may be treating someone for lung cancer or some other fatal disease periodically will send someone to a psychologist or psychiatrist to talk to them about all of that, don't you?

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A. I imagine that is true.

Q. When you interviewed Mr. Buckley did he tell you he had had any type of psychiatric or psychological counseling?

A. Not that I recall. I didn't specifically ask, either.

Q. Doctor, in drawing your opinion in this case you were relying on Dr. Selikoff's study that compared smokers and non-regular smokers, weren't you?

A. That's correct.

Q. Those were insulation workers?

A. That's correct. In part. That is not the only ones. In part, yes.

Q. That is the leading study that we have heard a lot of talk about cohorts and all of this, this long longitudinal study; isn't that right?

A. I mentioned it once, yes. Beyond that, I wouldn't know.

Q. Before we get to this, what is your connection with Dr. Nicholson?

A. He is a colleague at Mount Sinai.

Q. Who brought Dr. Nicholson into this case; did you or did he bring you into this case?

A. You asked me that yesterday. I have no idea. He did not contact me about this case nor did I contact him.

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Q. You two interviewed Mr. Buckley together?

A. That is correct.

Q. It just sort of happened, as far as you know?

A. No. I think actually Mr. Goetsch arranged that.

Q. That is what I was trying to get at. Tell me how that all came about.

In other words, you get a call from Mr. Goetsch and he says, look, I want to send this person over to see you, Mr. Buckley, right?

A. Correct; something like that.

Q. Then you set up an appointment?

A. Correct, or Mr. Buckley calls our clinic and they set up the appointment.

Q. Then Mr. Buckley shows up and, lo and behold, Dr. Nicholson is there?

A. No. I knew several days before, I think a week before, Dr. Nicholson told me he was going to be present.

Q. He told that you Mr. Goetsch had contacted him as well?

A. He didn't tell me that but -- I didn't tell Dr. Nicholson that and I didn't know exactly when Mr. Buckley was given his appointment. It wasn't me that arranged it so I don't know.

Q. When you examine patients as opposed to people who are sent by lawyers does Dr. Nicholson usually sit in

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with you?

A. All the people I see, whether they are referred by doctors, lawyers or whomever, are considered patients

for the purpose of consultation and, no, Dr. Nicholson doesn't usually sit in with me.

Q. What Dr. Selikoff was studying was the relationship between asbestos and smoking; isn't that right, in part?

A. In part, yes.

Q. You told this jury that there is a synergistic effect between asbestos and smoking; is that right?

A. That's correct.

Q. That is based in large part on that study?

A. There are other studies but that is the largest study that I am aware of.

Q. From that you then said that Mr. Buckley's risk has increased how many fold?

A. I don't think I said that at all actually.

Q. I think that what your testimony was that his risk has increased by a certain percent; is that right?

A. I don't recall exactly. I am not sure exactly what you are driving at.

Q. I am just trying to get you to answer.

A. If you make the question clearer, I will be glad to answer it.

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Q. Doctor, isn't it true that what Dr. Selikoff really compared were smokers and non-regular smokers, not non-smokers?

A. He defined nonsmokers as those who would smoke less than six months.

Q. They are specifically said to be non-regular smokers; isn't that right?

A. Could be. He could have referred to them as non-smokers but the definition was less than six months.

Q. Not smoking regularly doesn't mean that you never smoked at all?

A. Not necessarily.

Q. Doctor, the way Dr. Selikoff did this, he asked them the questions about their smoking history in 1966 but he wrote the papers in 1976; isn't that right; or based upon questions in 1976?

A. He questioned them in the late '60s and then looked at mortality in the beginning between 1966 and 1976.

Q. He never went back to see the people that were having the mortality, whether they had started to smoke?

A. Correct.

Q. That ten-year period?

A. After the time when he interviewed them.

Q. After the first interview in 1966?

A. After the only interview in 1966. I don't

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believe it was 1966. I think it was 1969.

Q. These "non-regular smokers" could have started smoking during that ten-year period, couldn't they have?

A. Yes.

Q. You agree that former smokers often fill out-patient questionnaires saying that they are actually non-smokers, don't you?

A. I have never seen a study about that.

Q. You didn't? Didn't you see it in the Princiotta case?

A. I don't recall. If you are referring to a specific study I will be glad to take a look at it.

Q. Okay.

Doctor, you are familiar with a publication called Chest; aren't you?

A. Yes.

Q. It is a magazine that you actually get at Mount Sinai?

A. Correct. I personally don't get it but Mount Sinai gets it.

Q. Chest, by its name, is about the lungs and things such as that?

A. That's correct.

Q. There was an article that came out in January 1992 is by Dr. Kasi S. Stridhar and William Raub where they,

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at page 23, concluded that former smokers often fill out the patient questionnaires as a non-smoker.

Actually you were asked about this at the Princiotta case so you saw it there. Maybe you forgot. That is understandable.

A. I hadn't seen that article before.

Q. You saw it there a year ago?

A. I don't recall, to tell you the truth. It may have been waved at me.

Q. In any case, you don't disagree with their findings?

A. I haven't viewed the study so I can't say that.

Q. Do you want to take a look at it now?

A. Sure. If you want to ask me specific questions, sure.

Q. Just take a look right there. Actually, to save time, the only question I want to ask you is did I accurately read what they concluded?

A. Yes, that is what it says here.

Q. Doctor, now, Dr. Selikoff's study was of 17,800 insulators; isn't that right?

A. That's correct.

Q. What he was trying to determine is how many increased cases of cancer occurred because of exposure to asbestos or smoking above what you would normally expect in

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the population; isn't that right?

A. That's correct.

Q. Out of that group of 17,800 insulators, when they went back and looked at them as you say ten or more years after that they found a total of four non-regular smokers who got lung cancer; isn't that right?

A. That's correct, although you have to look at how many deaths total there were, not total number of people in the study since most of them had not died.

Q. How many smokers who got lung cancer increased over that period of time?

A. I don't recall.

Q. It was a dramatically large number; is that right?

A. It was large, yes.

Q. Dr. Selikoff actually concluded that the vast majority of insulation workers usually smoked?

A. That's correct.

Q. He also concluded that insulation workers work in enclosed spaces; isn't that right?

A. I don't recall seeing that specific line but they certainly did it many times.

Q. Generally, insulators also work in confined boiler rooms and other small spaces?

A. That's correct.

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Q. Thus, it is safe to say they were exposed to passive smoke?

A. I wouldn't say that. I don't know.

Q. You wouldn't say that?

A. I don't know.

Q. On page 207 from the same transcript, you were asked, starting at agent line 12:

"Q. Didn't Dr. Selikoff conclude that the vast majority of insulation workers usually smoked?

"A. That is true.

"Q. And, therefore, they were exposed to passive smoking?

"A. Did he conclude that? Are you saying he concluded that?

"Q. No. Would you agree?

"A. Yes. I think it is probably safe to say that they were exposed to passive smoking."

You agree with that, right?

A. Certainly Dr. Selikoff did not look at the issue of passive smoke. If you ask me whether insulators were sometimes with co-workers who smoked or themselves who smoked, in fact, at the job site, I would say that is likely to be true. It was never looked at as an issue.

Q. In fact, in 1968 Dr. Selikoff did a study that was reported in the journal of the American Medical

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Association where none of the individuals who did not smoke who were exposed, heavily exposed to asbestos on their jobs, got lung cancer; isn't that right?

A. I believe that is true. That was the smaller insulator group.

Q. In fact, there has never been a follow up on that study, has there?

A. You have to show me the study.

Q. Just as I read from it, it is asbestos exposure, smoking neoplasia. What is a neoplasia?

A. Cancer.

Q. It is by Irving J. Selikoff, E. Cuyler Hammond and Jacob Churg and states, "Of 87 non-cigarette smokers none died of bronchiogenic carcinoma, "which is a type of lung cancer; is that right?

A. Correct.

Q. Take a look and just tell me whether or not there has been a follow up study of that?

A. This is the group of insulators from New York and New Jersey?

Q. Right.

A. Total number of workers was 370 and this was a subset of the 17,800 so it has been followed up but they have been merged with the larger group of North American insulators.

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Q. That is the 17,100?

A. 800.

Q. The 17,800 and of that there has been a total of four non-regular smokers who got lung cancer; isn't that right?

A. Smoking information was available on about 12,000 out of the 17,8,000. That number four was true for the first ten-year followup, between 1966 and 1976.

The question is four out of how many. How many deaths were there out of non-smokers? I don't recall the exact number but it was in the -- a few hundred at most; it was not the 17,800.

Q. You have previously said these non-regular smokers are smokers that smoked less than six months?

A. That's true.

Q. When was the last time you saw anyone in science draw a conclusion based upon four cases out of 17,800?

A. It is not the only piece of information that is available, but it is important. This is the largest study available and even within that group because there were so many smokers it was a difficult issue to study because there were relatively non-smokers. It is an important number. it doesn't stand alone but it is an important study.

Q. Did Dr. Selikoff think it was important?

A. That study?

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Q. Yes.

A. Yes.

Q. By weight, these workers who were studied had actually worked in the insulation trade for at least 20 years; isn't that right?

A. Correct.

Q. Doctor, that number four could have been a little higher and could have been a little lower?

A. That's correct.

Q. Because of the statistical variation?

A. That's correct.

Q. The smaller the numbers in any particular study the less certain one can be that the single number obtained actually represents the real number; isn't that right?

A. No. Actually the amount of --

Q. Do you agree with that, yes or no?

A. No. The amount of uncertainty depends upon not so much the size of the number as the number expected.

Q. You disagree with what I just said?

A. Well, it is just a more complicated topic. I don't really disagree. The smaller -- smaller numbers are uncertain.

Q. That means the more uncertainty, the less we are sure that that number, 4 out of 17,800, is actually a real number?

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A. It is a real number but it could easily have been 3 or 5.

Q. Page 211, continuing with-your trial testimony:

"Q. Didn't Dr. Selikoff also state because of the small numbers the ratio is subject to specific statistical sampling variation?

"A. That is true.

"Q. What does "specific statistical sampling variation" mean?

"A. It means that the actual number four could have been a little higher, could have been a little lower. The smaller the number in any particular study, the less certain we are that the single number obtained actually represents the real number." That was your testimony then?

A. Okay.

Q. By the way, there is nothing in that study or the cohorts that have followed it that suggest that they

ever studied people who had never smoked at all, isn't that correct?

A. Well, again we get back to Dr. Selikoff's definition of his non-smoker which was smoking for less than six months. As far as I know, there wasn't ever a defined group of people who had never touched cigarettes. (Continued on next page)

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A. It is a real number but it could easily have been 3 or 5.

Q. Page 211, continuing with your trial testimony:

"Q. Didn't Dr. Selikoff also state because of the small numbers the ratio is subject to specific statistical sampling variation?

"A. That is true.

"Q. What does "specific statistical sampling variation" mean?

"A. It means that the actual number four could have been a little higher, could have been a little lower. The smaller the number in any particular study, the less certain we are that the single number obtained actually represents the real number."

That was your testimony then?

A. Okay.

Q. By the way, there is nothing in that study or the cohorts that have followed it that suggest that they ever studied people who had never smoked at all, isn't that correct?

A. Well, again we get back to Dr. Selikoff's definition of his nonsmoker which was smoking for less than six months. As far as I know, there wasn't ever a defined group of people who had never touched cigarettes. (Continued on next page)

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Q. And, Doctor, Mr. Buckley is not an insulator, is he?

A. No, he is not.

Q. If you take a look at Dr. Selikoff's numbers, 17,800 people were studied, is that right?

A. Were in the study at the start.

Q. Right. And 10 percent of that would be 1,780. 1 percent would be 178. And .1 percent or a tenth of a percent would be almost 18, and the number that came up was actually a little bit less than .025 of a percent. Isn't that right?

A. That's correct.

Q. And you, in part, rely on that with respect to the synergistic effect of smoking and asbestos.

A. No, I think the important number is the number of deaths. The number of deaths was not 17,800. It was, the first ten years of the study, about a couple of

thousand. Secondly, you have to look at the number of deaths among nonsmokers. We only had information on smoking for about two-thirds of the total group for about 12,000. And the nonsmokers were in the vast minority of that group. So you are really looking at -- the single number you really need to focus on is 4 out of how many nonsmoking deaths. It is not 4 of 17,800.

Q. So you would have expected, out of that number of

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the never smoked regularly, that there be .7 deaths, isn't that right?

A. That's right.

Q. And instead there was reported to be 4 of the never smoked regularly.

A. That's right.

Q. And the numbers of people who had smoked was 268 deaths for people who had a history of cigarettes, isn't that correct?

A. That's correct. It was as of '76.

Q. Right.

A. The number of nonsmokers were about 900, I believe.

Q. The article was actually published in 1979.

A. Right. But it describes follow through 1976.

Q. Do you agree with this statement that Dr. Selikoff wrote: "However, because of the small numbers the ratio is subject to considerable statistical sampling variation. By chance, the observed number might have been as low as 1 or 2 or as high as about 9. Therefore, all we can say is that the actual mortality ratio is probably more than one but could be as high as 12 or even a little higher. In any event, the mortality ratio for men who never smoke regularly was very small as compared with the mortality ratios of the cigarette smokers."

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Do you agree with that?

A. Could I see that?

Q. Surely.

A. I would like to verify what you are reading.

Q. Absolutely. The part in yellow (handing to the witness).

A. All right.

Q. Did you solicit any information at all from Mr. Buckley -- oh, I am sorry, did I accurately read that?

A. Yes.

Q. Did you solicit any information at all from Mr. Buckley about his hobbies or outside activities?

A. I believe I did.

Q. Tell us what they are.

A. I don't really recall. There are none that involved asbestos exposure or any exposure to any lung carcinogen.

Q. Based upon what Mr. Buckley told you?

A. Of course. As you said, I spoke with Mr. Buckley at the interview.

Q. Doctor, just talking a little bit about your various studies that you worked on, you mentioned something on direct examination when Mr. Goetsch asked you, something about firemen and you have done some studies on firemen?

A. Firefighters. One study.

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Q. Can you tell me a little bit about that study?

A. Sure. We examined long-term New York City firefighters, people who -- we raised the issue of whether firefighters had sufficient exposure to asbestos as to cause disease, because they are involved with building demolition in the process of fighting fires. In particular, after putting out a fire, it is their responsibility to make sure that there are no lingering embers, and therefore they need to part walls or take off insulation or the like. That is called the overall stage of a fire. That is exactly when they take off their masks, actually, because the fire is out and there is no obvious smoke in the air.

Q. And they have been working hard, it is hot, and they need to get some fresh air?

A. That's correct.

Q. Yes.

A. And so we raised the issue actually, they came to us with these questions -- as to whether there was sufficient exposure to asbestos to cause some scarring of the lungs. So we examined some 225 firefighters, pretty much all of whom had had at least 25 or 30 years from the beginning of work as a firefighter.

Q. What did you find?

A. Well, we found that the ones with a past history of exposure to asbestos, that is to say, prior to fighting

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fires, had a significant increase or about a third of them had some scarring of the lungs or pleura. Most of it was of the pleura, which we judged to be due to asbestos. But even looking at the group that had no other asbestos exposure other than fighting fires, that about 1 out of 7 or 8 had some limited scarring of the pleura, the covering of the lungs, indicating exposure to asbestos.

Q. That is, about three-quarters of what a fireman does is the overhaul work which is after the fire, pulling down the walls and ceilings in looking for the source of the flame to make sure they got the fire out; right?

A. I never said what percentage of their time is spent --

Q. Would you agree with that?

A. Actually, I don't know. Firefighters have different tasks at fires and you can't actually call all of them the same.

Q. You know who Andrew Churg is, don't you?

A. Yes. He is a pathologist at the University of British Columbia.

Q. And in fact is he the son of the Dr. Churg that worked with Dr. Selikoff on a lot of these studies?

A. Yes.

Q. And he has written a book on the Pathology of Occupational Lung Disease?

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A. Yes.

Q. You haven't written any textbooks on lung disease, have you?

A. No, I haven't.

Q. And, Doctor --

A. Actually, I edited a book that just came out on tuberculosis in the workplace.

Q. When you say edited, you mean that a lot of people submit articles and you basically are the one that helped decide, among other people, on what goes in and what doesn't?

A. Well, I wrote a couple of the articles in them, but I solicited the other authors for articles.

Q. Doctor, would you agree with Dr. Churg when he writes, with respect to occupational and environmental history, at page 3:

"It is important to be aware that exposure to hazardous agents can and do occur outside the workplace. It is often useful to solicit information on potentially hazardous avocational hobbies and do-it-yourself interests, the nature of the spouse's job, and proximity to major industries, demolition sites, and dumps. Because of the importance of cigarette smoke in producing lung disease in general, and because of the known and potential interactions between smoke and industrial agents, detailed knowledge of

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the patient's smoking history is mandatory."

You would agree with that? Nothing particularly controversial?

A. Yes.

Q. Would it change your opinion at all in this case to know that Mr. Buckley, in addition to working as a pipe fitter, does some firefighting on a volunteer basis?

A. I didn't learn of that. I asked in detail how often he fights fires, what operation of the fires he is involved with, and the like.

Q. And did you know in fact that there is a brigade at Metro-North where he could be asked to fight fires at Grand Central Terminal?

A. What is the question?

Q. Did you know that?

A. No, I didn't.

A. Actually, I mean, I didn't write it down, I don't recall it being said. He may have volunteered it.

Q. But you didn't write it down.

A. That's correct.

Q. And you don't have any recollection of it now?

A. That's correct.

Q. Doctor, we were talking a little bit about latency period, and you would agree that that latency period could be as low as ten years for lung cancer, is that right?

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A. Could be. The risk appears to begin, at least these days, to begin at ten years.

Q. What is Mr. Buckley's risk of lung cancer in the absence of any asbestos exposure from 1985 to 1988?

A. His absolute risk?

Q. Yes.

A. Given the smoking history of a little bit less than 20 years, a pack, with zero asbestos exposure?

Q. No one has zero asbestos exposure; we learned that this morning from Dr. Nicholson.

A. Zero occupational exposure. He would have some risk of lung cancer. I can't give you the absolute risk.

Q. But if he hadn't quit smoking that pack a day and had continued for another 20, 30 years, his risk would be about what?

A. His risk would be -- well, again I never said he smoked a pack a day. He told me he smoked less than a pack a day. His risk would be in the range of -- what is the total cigarette smoking you are saying?

Q. Assume 40 years.

A. 40, a pack, years would be a moderate level, it would be 3 to 4 to 5 times the background risk, depending on the study.

Q. 3 to 4 times as high as someone who is a nonsmoker?

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A. That's correct.

Q. Part of your opinion, according to your report, is you assume that Mr. Buckley had exposure to asbestos daily for two and a half years.

A. That is what I was told. I didn't assume it. That is what I was told.

Q. Isn't it true that the reason Mr. Buckley needs medical surveillance is not exclusively because of his asbestos exposure but because of his long history of smoking?

A. Well, it would contribute to the lung cancer risk. In that sense, it would contribute to the need for medical surveillance.

Q. Doctor, basically you would agree that people, once they get to be around 40, should have regular physicals, isn't that right?

A. 40 or 45. Between 40 and 50, I'd say.

Q. Doctor, you would also agree that somebody who has been a smoker for 20 years certainly falls in the group of people who should regularly have chest x-rays?

A. Well, actually, for cigarette smokers who have no known exposure, occupational exposure to asbestos, it isn't entirely clear whether x-rays would help them or not; that is to say, whether a regular x-ray would allow detection of the cancer in an early-enough stage for it to be cured. In

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the context of cigarette smoke and occupational exposure to asbestos, the fact that the lung cancer risk is higher, that group hasn't specifically been studied for utility of chest x-rays, but it would make sense

that it would be useful and that one stands a reasonable chance of detecting lung cancer early if the person has regular chest x-rays.

Q. And in fact if you catch lung cancer early, you can sometimes have surgery, and if you catch it too late, you can't have surgery,, isn't that right?

A. In general, yes.

Q. Doctor, when you saw Mr. Buckley, you wrote that he should have periodic medical surveillance for his health. Isn't that right?

A. That's correct.

Q. You also told him that he should not resume cigarette smoking, is that right?

A. That is correct.

Q. That was in February 1994?

A. That's correct.

Q. Doctor, you were sent several people by Mr. Goetsch over the last few years, weren't you?

A. In 1990 I was sent, I believe, two or three.

Q. Larry Brown?

A. Larry Brown was one.

Q. And also Daniel Nelson?

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A. That doesn't ring a bell, actually.

Q. Hugh Campbell?

A. Hugh Campbell's name sounds familiar.

Q. Duane Brooks?

A. I don't recall him.

Q. Let me just show you this and see if this refreshes your recollection (handing to the witness).

A. Well, Daniel Nelson, the physician down here is Ruth Lilis.

Q. She works with you?

A. At the time, yes. Hugh Campbell, my name is down here. Michael Buckley is Robin Herbert. Duane Brooks is Steven Levine. It is very clear at the bottom of the page who the physician is.

Q. And they all work with you?

A. They are all at Mount Sinai.

Q. In your group?

A. Dr. Lilis is pretty well retired.

Q. But in 1990, Doctor --

A. That's correct.

Q. -- they all worked at the Occupational Health Clinical Center?

A. That's correct.

Q. Doctor, you are the one who saw Larry Brown, isn't that right?

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A. That's right.

Q. And when you saw Larry Brown, you found out that, unlike Mr. Buckley, he wasn't a smoker?

A. Well, I saw him in 1990 and I haven't looked at his record since that time, but, as I recall, I don't believe he was a smoker.

Q. And you conclude that his exposure to asbestos was significant, isn't that right?

A. May I see the report?

Q. Sure. The first question is whether you concluded his asbestos exposure was significant.

A. What I said was, reading:

"Hence, Mr. Brown is unfortunately at increased risk for one or more of the diseases known to be associated with asbestos. Fortunately, he does not smoke cigarettes and is unlikely to be exposed to asbestos again. I advised him against either of those toxic exposures."

Q. I think there is a page where you said -- I can maybe approach and show you -- you said, "Unquestionably he had significant exposure to asbestos."

A. That's correct. That is what I said.

Q. Doctor, in this report, unlike the one -- by the way, this is also written to Mr. Goetsch?

A. I believe so.

Q. You remember that Mr. Goetsch sent you all these

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people, right?

A. I don't know what you mean by "all these people."

Q. Well, people we just went through.

A. Most of them were seen by other physicians at Mount Sinai.

Q. The other people, all right. Mr. Goetsch sent you Mr. Brown?

A. That's correct.

Q. Doctor, isn't it true that, because Mr. Brown was not a smoker, you never wrote there, as you did with Mr. Buckley, that he needed periodic medical surveillance? Yes or no.

A. The smoking factored into it, certainly, because --

Q. Question: Did you write in that report for Mr. Brown that he needed medical surveillance in his future?

A. I did not write that to Mr. Goetsch.

Q. And did you write that with respect to Mr. Buckley?

A. Yes, I did.

Q. And the difference between the two is one was a smoker and one wasn't?

A. Well, that is one difference. Mr. Buckley is now ten years from his onset of exposure to asbestos, because he began in '85, whereas Mr. Brown, when I saw him in '90, I

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believe that his exposure began in '87. So he was just three years. And since we don't expect to see any of the effects for at least ten years, it is a projection into the future to give him that advice. I may have given him that advice in person as a patient, but I did not write it in the report.

Q. Doctor, obviously, as someone who is an expert in occupational medicine, it would be unusual to write people should get an exam every three years or get an exam in five years or get an exam five years after exposure, isn't that right?

A. That's correct.

MR. LANDMAN: Your Honor, maybe if we took a break. I don't have much more time

for the doctor. I just need a couple minutes, and I can shorten this if now would be an afternoon break.

THE COURT: That is a very admirable suggestion. (The jury left the courtroom.)

(Recess)

THE COURT: You may proceed.

BY MR. LANDMAN:

Q. Doctor, I won't go through all these animal studies with you. I just want to ask you one question.

In one of these studies, the one by Dr. William Rone, who is at New York University School of Medicine, what

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they did with the animals is, am I correct, that they gave them 12 months of intratracheal injections --

A. Yes, they --

Q. I will show it to you. -- injections of chrysotile asbestos and they found that there was an increase in the number of alveolar macrophages and neutrophils, accompanied by fibrosis. Is that right? I will show it to you (handing to the witness). What I am really interested in is whether or not what they did is gave these animals these 12 months of intratracheal injections.

A. OK. Go ahead.

Q. Is that what they did?

A. Well, they didn't call it fibrosis. They call it fibrosing alveolitis, which means there was active inflammation of the lung, and which was producing scarring.

Q. Can you tell us what they mean by intratracheal injections?

A. Oh, this is where the asbestos is injected to the windpipe.

Q. That is what trachea is?

A. Yes.

Q. Does it say how much they are injecting into the windpipe of the animals?

A. No. This is not the original study. This is a summary of the study.

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Q. Does it say what the animal is?

A. A sheep.

Q. Doctor, pleural scarring itself is not a disease, is that right?

A. It is a disease.

Q. But it has no effect on the body in itself, just pleural scarring?

A. That is not true.

Q. What effect does it have on a person?

A. Accumulation of scars, if sufficient in the pleura, can cause respiratory symptoms and can interfere with pulmonary function. It is very limited in extent that it won't do it, but as it increases it will do that.

Q. And it means you sometimes get shorter breath, is that right?

A. That's probably the cardinal symptom.

Q. In 1990, when your colleague saw Mr. Buckley at the request of Mr. Goetsch -- your colleague's name is Robin Herbert, Dr. Herbert?

A. Correct.

Q. She works with you?

A. Correct.

Q. And you saw that she also wrote a wrote to Mr. Goetsch in this case, is that right?

A. That's correct.

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Q. What she found is that he was able to walk 15 to 20 miles a week and walk up seven flights of stairs with no difficulty. Is that right?

A. That's correct.

Q. When, by the way, did Mr. Buckley tell you he first received a respirator?

A. In either late '87, or, I believe it was, 1988.

Q. I believe your report says -- take a look. You can refer to your report, Doctor, whenever you need to.

A. OK.

Q. Page 2, the second paragraph: Beginning early 1988 and continuing, Mr. Buckley was given a respirator and some training. Is that right?

A. That's right.

Q. So he told you that when he got his respirator in early 1988?

A. I believe so.

Q. Do you know when?

A. No.

Q. Would it change your-opinion at all in this case if you knew he actually had gotten a respirator in 1987

in terms of the amount of exposure he would have had?

A. It depends when in 1987. December or November it really doesn't affect much the total quantity of exposure.

Q. But before that it could change your opinion?

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A. It is a relative amount. You know, in my view he had two and a half to three years of quite significant exposure. If it is a few months less, then it would be that much less exposure and that much less risk, but the basic increase in risk would still be retained.

Q. By the way, your whole opinion on that in terms of exposure again is from Mr. Buckley?

A. It's, again, what happened at the job came from him to me.

By the way, Doctor, you didn't note this in your report four years later, anything about it, but your colleague noted that Mr. Buckley back in 1990 had high cholesterol. Is that right?

A. That's correct.

Q. And in fact told him that he should follow up with his physician?

A. That's correct.

Q. And high cholesterol can cause heart disease?

A. That's correct.

Q. And heart disease is still the number-one cause of death in this country, is that right?

A. That's correct.

Q. And heart disease is related to smoking in part.

A. Correct.

Q. And also having an elevated cholesterol?

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A. What is the question?

Q. That heart disease is related to elevated cholesterol.

A. That's correct.

Q. So that Mr. Buckley in 1990 had two high-risk factors for heart disease: smoking and cholesterol?

A. He had a history of smoking --

Q. No, in 1990 he was still smoking.

A. That's correct.

Q. And how many people die each year in this country from heart disease?

A. I don't know, actually.

But when you saw him in 1994, you apparently didn't even ask him did he ever follow 'up with his physician about the cholesterol?

A. I don't recall.

Q. Do you have any notes of that?

A. No, I don't.

Q. You brought your whole file with you, right?

A. That's true.

Q. And there is nothing in your report you would agree about that?

A. That's correct.

Q. And you would agree that Dr. Herbert did tell him to follow up with his personal physician about that?

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A. I believe so. Let me check.

Q. Take a look at laboratory tests, and the next-to-the-last page.

A. Correct.

Q. And Dr. Herbert stated, "I have advised Mr. Buckley to follow up with his personal physician on all these findings." Is that correct?

A. Correct.

Q. And the findings that they are talking about were that there was an elevation of the cholesterol level to 211 and of the triglyceride level to 470, is that right?

A. Correct.

Q. And you are seeing him as your patient in 1994 and you never bothered to make any notation about that, did you? Yes or no.

A. Yes, that's correct.

THE COURT: Yes, you did not, is that correct?

THE WITNESS: I was seeing him in relation to asbestos-related disease. I did not address the issue of triglycerides or cholesterol.

Q. So, in other words, if I come to you, Doctor, as your patient, and I am coming in, and I say, "Gee, I have been exposed to radon and I am really worried about that, and I am a walking time bomb for heart disease," you are not going to tell me about it?

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A. Well, no. If you come to me with specific questions about your occupational exposure, I am going to give you advice about that.

Q. And that's all?

A. I may or may not give you advice on other things. I don't consider it, what the interchange is, for me to review all the health problems that the person has.

Q. Because that is not the kind of medicine that you practice, is that right?

A. I am a specialist in occupational medicine. When someone comes to me with the issue of what is my exposure, it is what is my health risk.

Q. You talked about risk with respect to Mr. Buckley in this case. What was his risk when you saw him in 1994 of dying of heart disease?

A. I don't know.

Q. Doctor, between 1994, when you saw Mr. Brown, and 1994 when you saw Mr. Buckley, did Mr. Goetsch tell you to put something in your report about medical follow-up?

A. I didn't see Mr. Brown in 1994. And Mr. Goetsch -- No, that isn't the question.

THE COURT: You misspoke.

MR. LANDMAN: I misspoke? I apologize.

Q. Between 1990, when you saw Mr. Brown, and 1994,

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when you saw Mr. Buckley, did Mr. Goetsch tell you at any time during that time, including the day you saw Mr. Buckley or shortly after that, to put something in your report about medical follow-up, that he needed that information?

A. Absolutely not. He never told me what to put in my report.

MR. LANDMAN: Nothing further.

REDIRECT EXAMINATION BY MR. GOETSCH:

Q. Dr. Markowitz, Mr. Landman asked you about the body of opinion regarding whether asbestosis was necessary before asbestos-related lung cancer could develop. Would you tell us, Doctor, whether there is any body of opinion regarding whether asbestosis is a necessary prerequisite to asbestos-related lung cancer?

A. Well, there is certainly an opinion that asbestosis is not required, to consider it a subsequent lung cancer as being asbestos related or not. It is more often considered to be an unsettled question, that is to say, a hypothesis that you need that scarring to elevate the risk of asbestos. But the fact of the matter is, dozens of studies have shown that asbestos as asbestos is what increases the risk of lung cancer. We know this from studies of groups of workers exposed to asbestos even after you account for cigarette smoking that they have an

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increased risk of lung cancer due to asbestos. Some people believe that that excess risk of lung cancer is limited to the group of asbestos workers who also have the scarring. But there is very little scientific data, studies, that prove that hypothesis.

So that I maintain, we know asbestos causes lung cancer, but we don't know and we can't state that asbestosis is required for that lung cancer to develop and be ascribed to the asbestos.

The problem is, you got asbestos, it causes two effects: scarring and the cancer. The heavier the exposure to asbestos, the more likely you are to get both of those diseases, so that you often see both diseases in the same people.

Q. Doctor, what date did you see Michael Buckley?

A. February 1994.

Q. How many years was that after his initial exposure to asbestos at Grand Central?

A. Nine years.

Q. At that point in time, nine years after his initial exposure, did you expect to find any evidence of pleural thickening in his lung on x-ray exam?

A. No, I didn't. I expected to find no evidence of asbestos-related scarring or cancer.

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BY MR. GOETSCH:

Q. Why is that?

A. Because of the latency period. That is to say, we know from many studies, you begin exposure to asbestos a one age and you don't see any of the effects until 10 years after that.

In the old, old days when there was very heavy exposure, some people saw some between five and ten years but more recently the increased risk would begin pretty much. at ten years with very few exceptions.

Q. why did you recommend that Mr. Buckley undergo periodic medical monitoring from the date of your seeing hiT into the future?

A. For early detection of disease, that is to say, if he develops some scarring that needs to be addressed. As I said yesterday, we have no cure for the scarring, but you can get an influenza shot or pneumonia shot that can prevent some of the effects of that.

I thought that early detection of that scarring was important. I also thought that with the history of quite a bit of exposure during that two-and-a-half years that there was an increased risk of lung cancer and that his risk of lung cancer was elevated in relation to the asbestos exposure and the former history of cigarette smoking and, therefore, regular chest x-rays might pick up a lung cancer

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early enough to be treated.

In addition, there is some GI cancer that is related to asbestos and I thought he should have regular testing

for that, but that is recommended by the American Cancer Society anyway.

Q. Doctor, was Michael Buckley's need for periodic medical monitoring the direct result of his exposure to asbestos at Grand Central Terminal?

A. Yes.

Q. Is the fact that Michael Buckley is a volunteer on the Metro-North fire brigade at Grand Central, does that change your opinion at all?

A. No. I mean, if anything, it would add to his exposure but, frankly, a volunteer firefighter in that capacity is unlikely to have the kind of -- the intensity of exposure that I saw in the New York City firefighters so that I thought the level of exposure there would be a lot less important than working with asbestos as he did day after day for two and a half years being covered with material.

Q. Doctor, do you have those animal studies that Mr. Landman asked you for?

A. He has all those studies.

Q. Doctor, would you take the time to go through those studies and indicate to us any that refer to the

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effect of chrysotile asbestos on biological changes?

A. Sure. I used the animal studies to try to shed some light on what goes on between onset of exposure to

asbestos and clinical development of disease; that is to say, when the disease becomes apparent on the chest x-ray or the person develops systems.

As I said yesterday, we don't biopsy or take pieces of tissue from healthy people who get sick from asbestos because there is no real reason to do it.

The question is, what's happening during that window when the patient feels well but has all of this asbestos in their lung. I look at the animal evidence to shed some light about that recognizing that it is animal evidence and it involves some extrapolation to humans.

This is one of these studies from a group at the National Institute of Environmental Health Sciences which is part of the government.

They took seven-week old rats and exposed them to asbestos for one hour. This was specifically the chrysotile asbestos. Then they sacrificed the animals after a period of time.

Some animals they looked at after two days so they were exposed for one hour a day and then looked at their lungs at two days and some animals they looked at one month. This is a short time period of exposure.

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The one hour of exposure to asbestos was high but it was only one hour.

They found that the macrophages, one of the cell; in the lungs which is central to the body's defense, had increased in volume at the alveoli, at the point where gas exchange occurs, and that they had moved into the interstitial. They moved in between these air sacs where air exchange occurs.

They were greater in number, size and they moved to a different location. They also found that there was an accumulation of fibroblasts of the cells that produce scarring and they concluded that, these acute structural changes are followed by a progressive response manifested by an increased number of interstitial cells, cells in this interstitial space and localized interstitial fibrosis. One hour of exposure showed changes in macrophages and showed a progression to scarring based on that kind of exposure for one hour.

That same group from the National Institute of Environmental Health Sciences did a number of studies along these same lines. They also took a group of animals, this was by inhalation, they put asbestos in the air and had the animals breathe it in, not the intratracheal installation. Here they are exposed the animals seven hours a day, five days a week, some animals for three months and some for 12

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months, and looked at the changes in the lungs.

This group had a longer term exposure than the other but still three to twelve months, less than a year. They found again accumulation of these macrophages,

these cells of defense, and changes in the tissue which they said, "Indicate marked epithelial injury."

The epithelium is the lining cells within the lung. They are saying these macrophages were there and they were producing injury. One of these studies, it is the review by Roggli in his textbook, talks about the mechanisms of injury produced by macrophages. There are several ideas.

One is what are called active oxygen species. These are sort of oxygen related molecules but the kind of oxygen changed molecules that are damaged are produced by these macrophages and cause tissue damages.

We know that the macrophages, some of which are smaller than the asbestos fibers, they try to engulf the fiber, they are unable to and some of those macrophages die and release enzymes or chemicals that do local tissue damage.

There are a whole list of different enzymes which can be measured directly. We also know that those macrophages produce growth factors, that is to say, these are chemicals that encourage other cells to grow and to produce materials, and that one of those growth factors is

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fibroblast growth factors and they are the cells that produce fiber.

Here we have macrophages in the alveoli and between the air sacs producing a factor or a chemical, protein,

which communicates with fibroblasts, the cells, and tells them to produce collagens, produce scar tissue.

That spectrum of effect is seen within days to months of the exposure to the asbestos by the animals. These articles basically in great detail look at these issues.

Q. Doctor, do those animal study articles that you referred to support your opinion regarding the presence of biological changes in Michael Buckley's lungs?

MR. LANDMAN: Objection, leading.

THE COURT: Answer the question.

THE WITNESS: Yes. Just in support of that question, one of these studies actually was looking at people who had been exposed to asbestos and their x-rays showed some of the scarring of the asbestos.

When they put fluid in those people's lungs and then took it out, which is uncomfortable but not intolerable, when that is done, that is called lavage, and they find cells, the macrophages, just like they do in the animal studies.

When they take off the fluid surrounding those

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macrophages they do some of the same things that were seen in the animal studies, specifically, produce those growth factors that encourage the formation of scars.

So we see in humans the same kind of things that we see in animals. That I think supports the view that there are biological changes going on.

Q. Mr. Landman asked you about various diseases that are preventable. Are asbestos-related diseases preventable. Doctor?

A. Yes. As you reduce and eliminate exposure to asbestos you reduce and eliminate the risk of those diseases.

Q. Do you consider a level of smoking cigarettes of less than one per day to be a level equivalent to not smoking?

A. Virtually. I don't think a cigarette or less a day is a major hazard. I think it is trivial. I can't say it is a zero risk but in the scale of things we usually look at people who have a pack or two packs a day. Less than one cigarette a day is not really meaningful.

Q. Does smoking of less than one cigarette a day have any significant effect on the plaintiff in this case, Michael Buckley, as far as -- from your point of view?

A. No. I think it adds trivially to his risk. I encourage people to stop smoking. The problem with smoking

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a cigarette or less a day is some of those people take back -- in terms of one a day, it is very small.

Q. Do you vary your examination and testing and advice because an individual happens to be sent to you by an attorney?

A. No, I don't.

Q. Do you do the same thing when another medical doctor refers a patient to you?

A. I don't vary my advice or assessment based on who sends the patient to me.

Q. Doctor, from your point of view as a specialist in occupational medicine, how significant was Michael Buckley's exposure to asbestos in Grand Central Terminal from 1985 to 1988?

MR. LANDMAN: Objection; calls for speculation.

THE COURT: He can answer the question.

THE WITNESS: Since we don't have measurements in the air, I relate his kind of exposure to the kinds of things I hear from other patients I have who have had a history of exposure to asbestos.

Usually I see people after they develop some disease. That is to say, they have some scarring. Then I ask them about their exposure in the past.

One group that I have seen a fair number of are shipyard workers because this is the largest number of

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workers, Americans, who received asbestos exposure in the shipyards in World War II.

The reason why, in my mind, I compare Mr. Buckley to these shipyard workers is because most of these workers had two or three years of exposure. They didn't have decades of exposure like the insulators or many of the construction trades we know.

Shipyard workers have significant exposure even if they are not working directly with the asbestos. Whether they are electricians or other trades, the asbestos is in the air.

Followup studies done of those workers, 30 or 40 or more percent of those workers show a scarring of the lungs. They have an increased risk of lung cancer of at least two-fold compared to non-shipyard workers and they get mesothelioma.

I view his exposure at a couple of hours working with dry asbestos, airborne, ripping out, direct contact, manipulating the material, as roughly equivalent to the kind of two to three year kind of exposure that some shipyard workers have. I consider it significant. I consider it, that is to say, it

is an issue that raises his risk of disease in a non-trivial way.

Q. Doctor, you were able to compare the extent of Michael Buckley's exposure from '85 to '88 with that of

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other workers that you have encountered and studied during that time period?

A. His kind of exposure to asbestos was, among patients I have seen, common before 1970, however, I can't recall any other group of workers who had this kind of exposure in the mid to late 1980s; that is to say, unprotected, prolonged direct exposure to asbestos where there was visible asbestos in the air and the dust was covering them. I hadn't seen that at all in people working in the 1980s because they view was asbestos exposure was largely controlled. There are laws about this.

MR. LANDMAN: Objection, your Honor. What is he getting into now?

MR. GOETSCH: He is answering the question.

THE COURT: You can make your arguments to the jury.

MR. LANDMAN: Okay.

THE WITNESS: To finish, this was unusually heavy exposure to asbestos, unprotected, for the 1980s.

Q. Doctor, you asked about the effect of respirators on exposure. When a half face respirator is not fit tested, what effect does it have on its ability to protect a worker from asbestos fibers?

A. Well, the ability of the respirator may be compromised. The way to do this is you test people when

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they put the respirators on to make sure it is the right fit, make sure it fits well and does the job. There are protocols of fit testing so that if it isn't fit tested, the respirator may not work as well. It may but it may not.

MR. GOETSCH: Thank you, Doctor.

MR. LANDMAN: Just a few questions, your Honor.

RECROSS-EXAMINATION

BY MR. LANDMAN:

Q. Doctor, you just gave an opinion to Mr. Goetsch about the causal link between asbestosis and lung cancer. We have already talked about who Dr. Churg is?

A. Correct.

Q. You recognize him as someone who -- who is someone who is somewhat of an authority in this field?

A. He certainly has a great deal of experience.

Q. He has followed in his father's footsteps because his father had a great deal of experience in this field as well?

THE COURT: It is not genetic.

MR. LANDMAN: Not genetic.

Q. He started as a small child. At page 281 of his textbook, Occupational Lung Disease, Dr. Churg writes, "Any physician dealing with asbestos-related or putatively-related disease will encounter carcinomas," meaning cancer, "in workers who do not have pathological

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evidence of asbestosis."

A. On pathology.

Q. On x-rays?

A. Pathological evidence.

Q. "The issue is whether such tumors can be related to asbestos exposure. The British take the view that the risk of carcinoma is definitely known to be elevated when asbestosis is present and hence that a worker with asbestosis found clinically or pathologically in a carcinoma should be compensated for his carcinoma whereas a worker without asbestosis should not receive compensation.

"I believe this is a practical and reasonably objective guideline that is consistent with the current scientific evidence."

You disagree with the current scientific evidence; is that right, Doctor?

A. Yes. I disagree with the interpretation. That is what I mean.

THE COURT: You don't disagree with all of that?

THE WITNESS: No, of course not.

Q. You disagree with what Dr. Chung is saying?

A. That's correct.

Q. Doctor, are you familiar with Dr. Roggli?

A. Yes.

Q. Who is he?

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A. He is a pathologist with expertise in asbestos-related disease.

Q. He has also written a textbook on this; is that right?

A. That is correct.

Q. He is from Duke University School of Medicine?

A. That's correct.

Q. He has written, page 182 from his textbook, "Pathology of asbestos-associated diseases," and actually I am not really being fair because it is both Dr. Roggli and Dr. Donald Greenberg. Do you know him?

A. Only his name.

Q. He is a professor of pathology at Baylor College of Medicine in Texas?

A. Correct.

Q. They have written together on page 182: "In summary, the weight of the evidence at this time seems to indicate that in an asbestos worker with carcinoma of the lung who also smokes cigarettes asbestosis must be present clinically or histologically" and clinically means x-rays, is that right?

A. Correct.

Q. Histologically means tissue samples?

A. That is correct.

Q. "Or there should be at least a tissue asbestos

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content within the range of values observed in patients with asbestosis in order to assign a substantial contributing role to asbestos in the causation of the lung cancer. The mere presence of parietal plaques is not sufficient to establish causation. However, the issue of asbestos or asbestosis as the primary cause of

lung cancer among asbestos workers should not be considered to be settled and more studies are needed to resolve this question with certainty." Is that correct?

A. That's correct.

Q. Doctor, do you agree with this?

A. I agree that more studies are needed to resolve the question.

Q. You don't agree.

A. I don't agree with the weight of the evidence. The first sentence really says that the weight of the evidence suggests that either asbestosis or pathologic evidence of asbestos in the lung is required to attribute it.

Pathologic evidence of asbestos in the lung is not the same as scarring. That just means documentation by looking at lung tissue and the number of asbestos fibers there that there was significant exposure. That is what that means.

Q. In this case we don't have that?

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A. We have no tissue, no lung tissue.

Q. We have absolutely nothing?

A. No. We don't have nothing.

Q. Yes, let's take that. Is there any clinical evidence of asbestos exposure on Mr. Buckley, yes or no?

A. Exposure?

Q. Yes. That he has been exposed; any clinical evidence on his body?

A. There is no clinical evidence of disease. He has had a history of exposure.

Q. Is there any clinical evidence of asbestos exposure on his body, any scarring at all?

A. No, but the question doesn't make sense. No.

Q. Dr. Nicholson hasn't written a textbook on asbestos, has he?

THE COURT: Neither have I.

MR. LANDMAN: But you are not testifying, your Honor.

Q. The shipyard workers you are talking about, what study, is that the Harries study?

A. No. There have been a number of studies, but if you look at Selikoff's study of the Groton shipyard published in the mid 1970s, it is one of the larger studies looking at all the trades in the shipyards.

Q. Are you familiar with the Haries study of the

shipyard workers?

A. I have seen it. I don't --

Q. Do you agree with it?

A. I would have to see it.

Q. Are aware of the fact that the shipyard workers there were found to have exposures over a 25-year period?

A. I don't recall the details about that.

Q. Is there asbestos in fiberglass?

A. Asbestos in fiberglass?

Q. Yes.

A. Not my knowledge.

Q. You mentioned something about fiberglass before in redirect examination.

MR. GOETSCH: Fibroblasts?

A. Those are the cells that produce the scarring.

Q. On these animal studies, how big is that week old rat when they give it --

A. It is not a week old.

Q. It said week old --

A. I think it said seven week.

Q. Okay. How big is a seven-week old rat?

A. I don't know how big it is.

Q. Do you know how much of a dose they were giving it?

A. The mass was 13 milligrams per cubic meter.

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Q. What does that --

A. Over one hour.

Q. How much is that?

A. That is a high dose but that doesn't easily translate to fibers per CC.

Q. That is what I am trying to get at. It is a lot more than five fibers per cubic centimeter?

A. It is more but I don't know how high it is.

Q. You just don't know?

A. That is correct.

Q. What was the animal they were giving the asbestos to for seven days a week?

A. That was rats also.

Q. How much asbestos were they giving them?

A. 11.36 milligrams per cubic meter.

Q. How does that convert?

A. That is very similar to the other exposure.

Q. That is a large amount?

A. That is a high level.

Q. They were doing that 49 hours a week?

A. 35 hours a week.

Q. Five days a week?

A. That's correct.

Q. They gave the rats off on the weekends, I guess. Doctor, do you know if Mr. Buckley has gotten any

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followup medical exams at all?

A. I don't.

Q. But you know that back in 1989, Dr. Steven Levin the medical director at your clinic, wrote a letter to Mr. Goetsch saying, gee, send all these 140 people over and we will be happy to do periodic medical exams and we will charge you for it; did you know that?

A. No.

Q. You have never seen that letter?

A. No. What is the question?

Q. Is that Dr. Levin?

A. Yes.

Q. You recognize his signature?

A. Yes.

Q. He is writing a letter to Mr. Goetsch. What is the date?

A. December 13, 1989.

Q. He is saying that your group would be happy to see all of Mr. Goetsch's clients for medical exams; isn't that right?

A. We will be pleased to accommodate your requests for medical exams.

Q. It was Goetsch's request for medical exams?

A. That is right.

Q. In 1989?

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A. That is what it says.

Q. Did Mr. Goetsch tell you that after Mr. Buckley, he had another 139 people with lawsuits?

A. No.

MR. GOETSCH: Objection.

THE COURT: I don't think it is relevant what he told him.

MR. LANDMAN: It is on the issue of if he wants these people to come in for exams because there is a real pecuniary issue here. I will argue it. I think I am through.

THE COURT: Are you through?

MR. GOETSCH: Not quite, your Honor.

THE COURT: You can't blame me for trying.

REDIRECT EXAMINATION

BY MR. GOETSCH:

Q. Dr. Markowitz, why isn't there clinical evidence of asbestos exposure in Michael Buckley at this point in time?

MR. LANDMAN: Objection. It has been asked and answered a million times. We have heard so much about the latency period.

MR. GOETSCH: I am simply addressing what he raised.

THE COURT: All right. You can answer.

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THE WITNESS: Because not enough time has passed from when he began exposure to asbestos in 1985 until the characteristic time when we begin to see on x-ray or symptoms or whatever which as a rule is no less than ten years, with exceptions, a few exceptions.

THE COURT: Don't ask anymore questions to bring out testimony that he said before.

MR. GOETSCH: Just one more on the subject, the, your Honor.

Q. You were asked about the necessity of asbestosis being present before lung cancer develops, Doctor.

My question to you is, why do you take the view that asbestosis is not necessary before asbestos-related lung cancer develops, can develop?

A. Because I give highest priority to the epidemiologic studies, to the studies of groups of workers who have been exposed to asbestos in a variety of settings over the years.

Those studies show an increased risk of lung cancer as a result of exposure to asbestos, with and without cigarette smoking. That is the most solid piece of evidence we have in the spectrum of evidence.

Now, there is the opinion, and the pathologists express it mainly, Dr. Churg and others, but others do as well, that that excess risk is limited to the group of

workers who show the scarring of the lungs. Not all the workers develop scarring of the lungs. So that they say that the excess lung cancer is limited to that group.

My view is that is a hypothesis, that is an assertion, that is an opinion. Let's look at the scientific evidence and examine whether that is true or not.

Have there been epidemiologic studies which show that if you divide that group of workers exposed to asbestos in two groups, one with asbestos for scarring and one without, but equal exposure, do you find an excess risk of lung cancer only in the group with the asbestosis.

There are very few studies that address that question. In my view, none that satisfactorily address that question. So in my view that opinion is out there but the underlying data don't support that opinion yet.

I recognize that there are people with a great deal of experience who hold that opinion. To me it is not a pathological question. It is a question to be settled by epidemiology and the studies, the body of studies haven't been done to show that that risk is restricted to the asbestosis group.

Q. Doctor, do you take lung tissue from living patients such as Mike Buckley?

A. Well, pulmonary physicians are ones who work with getting biopsies of the lung. I wouldn't personally, but,

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to my knowledge, pulmonary physicians do not go into people who have healthy who have no complaints, no symptoms, and take biopsies. The patients wouldn't let them and most patients wouldn't try to do that because there is no real rationale, certainly in the context of clinical care.

MR. GOETSCH: Thank you, Doctor.

MR. LANDMAN: Nothing further.

THE COURT: Do we have anymore witnesses for today?

MR. GOETSCH: Your Honor, we could call two relatively short co-employees or we could wait until Monday. It is up to you.

THE COURT: We will take a brief recess.

(The jury leaves the courtroom)

THE COURT: There is something I want to ask him in the presence of the jury.

I am concerned. You said in answer to a question of Mr. Goetsch, that you treat this man who is sent to you by a lawyer exactly as you would treat any other person who came to consult with you.

I don't know if you heard the opening in this case, but he has the most tre-

mendous emotional upsetment. He can't hear the word, he can't hear the word "asbestos" without vomiting, that is a little bit strong, but that kind of thing.

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Did gather that when you were talking to him?

THE WITNESS: Well, I discerned that he was concerned about this and that.

THE COURT: You didn't think it was as bad as he said?

THE WITNESS: He didn't vomit.

THE COURT: No.

THE WITNESS: Let me be specific. He didn't break down crying.

THE COURT: Did he indicate to you that he had a severe emotional upset?

THE WITNESS: He indicated that this was worrying him a fair amount, but severe emotional upset was not something that he talked about with me.

THE COURT: If he were your patient, wouldn't you send him to a psychiatrist, for God's sake, and hold down that worry? Isn't worry a bad thing all and of itself?

THE WITNESS: If he displayed that level of concern to me I might have considered that. I might have said, well, I think you ought to get some counseling about this, but I didn't see it.

THE COURT: I see.

THE WITNESS: So if it were -- sure, if I thought it were severe and disproportionate to the real concern that was -- that should be there.

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THE COURT: Why he didn't ask these questions, I don't know. That would be very valuable testimony. It is too late now.

MR. LANDMAN: Why I didn't ask the questions?

THE COURT: Yes.

MR. LANDMAN: You know why, your Honor? It would have been -- frankly, I didn't know what the answer was going to be, and, number 2, they have the burden of proof in this case, your Honor. They have to prove a severe emotional injury and, your Honor, it is quite clear to me they can't do it without a doctor, and they don't have a doctor.

MR. GOETSCH: That is not true.

MR. LANDMAN: That is why I wasn't going to give them an opportunity to have a doctor end up saying something that they have no evidence of.

THE COURT: That is a very good reason. Thank you very much. Get the jury

EXCERPT OF TRIAL TRANSCRIPT OF FEBRUARY 9, 1995 - TESTIMONY OF WILLIAM J. NICHOLSON

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WILLIAM J. NICHOLSON, called as a witness by the Plaintiff, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. GOETSCH:

Q. What is your occupation, Doctor?

A. I am employed at Mount Sinai School of Medicine as a professor in the Department of Community Medicine and I conduct research on occupational environmental health hazards. What college did you attend?

Q. What college did you attend?

A. MIT in Cambridge, Massachusetts and the University of Washington in Seattle, Washington.

Q. Have you ever served in the United States armed forces?

A. Yes. In the United States Air Force between 1952

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and 1955.

Q. What did you do in the Air Force?

A. I conducted research on radiation exposure and its potential effects.

Q. At graduate school what was your subject or major in graduate school?

A. It was related to the fission process, splitting apart of heavy elements. It was purely a physics thesis relating to the process itself.

Q. Did you receive a Ph.D. in physics?

A. Yes, I did.

Q. Did you hold any fellowships in graduate school?

A. Yes. At that time it was the Atomic Energy Commission and I had a university fellowship subsequently.

Q. After receiving your Ph.D. did you pursue any research in the field of physics?

A. Yes. I did so at Columbia University for approximately ten years and some physics -- some experimental work in biophysics as well. I had a minor in physiology and biophysics in graduate school.

Q. At what part of Columbia University did you do your research in?

A. It was at the 115th Street campus or the campus in that area.

Q. Did you have any teaching responsibilities at

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Columbia?

A. Some sessions of beginning physics students where you help them with whatever it was they were doing.

Q. How long did you remain at Columbia?

A. Until 1969.

Q. Where did you go after that?

A. I then went to Mount Sinai.

Q. Have you remained in a professorial position at Mount Sinai from 1969 up to the present time?

A. Yes.

Q. Does Mount Sinai School of Medicine have any division devoted to occupational medicine?

A. Yes. They have a division of environmental and occupational medicine in which I serve.

Q. What does that division do, briefly?

A. It was directed initially by Dr. Irving Selikoff, and because of his interest a great deal of our activity related to asbestos health effects or asbestos exposures.

That has encompassed much of my work over the years. Other agents in the environment are also

studied but there has been predominant activity in the field of asbestos research.

Q. Doctor, what is industrial hygiene or exposure measurement?

A. It is the field in which exposures of either

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individuals or processes are evaluated using measurements of -- appropriate to the agent involved. You are looking to see what might be the degree of exposure to workers, exposure to toxic agents in the environment that would possibly harm workers.

In addition, it involves the science of implementing controls to limit such exposures where deemed proper by installing ventilation equipment or other means of control in the process or activity.

Q. At Mount Sinai have you directed the industrial hygiene studies there?

A. I did so for the measurements that were undertaken of exposures to asbestos encountered by various groups of workers that we studied; primarily, insulation workers.

Q. Have you developed and used any analytical techniques for measurement of pollutants in the workplace?

A. Yes. I was one of the ones that early began using electron microscopic techniques in addition to what were optical microscopic techniques.

With respect to asbestos you are looking at very fine particles. The ones that are harmful are the very small and thin ones because they can get down in your lung.

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To count them, to measure their concentration in the air, one needs a very good optical microscope, but, in addition, that is not sufficient to count all the particles because some are even too fine to be seen. There one can use an electron microscope which is a more complicated analytical instrument to evaluate and to quantitate exposures in both workplace and the ambient air.

Q. Doctor, have you published any scholarly articles in the field of industrial hygiene or exposure measurement?

A. I have published some on occupational exposures. I have published more on exposures in the general environment.

Q. Doctor, briefly, what is epidemiology?

A. It is the science that looks at the disease and its potential cause. You can identify an excess amount of disease in a population by comparing what might be expected in that population with what actually occurs.

If you find there is a great many more people developing a disease, it could be an infectious disease and that is, in fact, where the name came from.

If there is suddenly a rampage of measles or something like that, you have what would then be an epidemic. One could establish that by -- in the case of measles it is not very hard, but in some circumstances you are looking at diseases that are unusual and you wish to identify such diseases in a population.

It may require observation or identification of

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the health status of many individuals. You also want to couple such identification of excess disease, whether it be infectious or exposure-related to exposure to toxic-agents related, and then see what is the source of these other diseases.

So we look at, in the particular aspects that I am engaged in, in exposures to toxic agents and the particular disease that, and its magnitude that might result from measured concentrations in the environment.

Q. Have you conducted epidemiological studies while at Mount Sinai?

A. Yes, I have.

Q. Would you just give us an example of two of the groups of workers that you conducted such studies on?

A. I have participated in the studies of Dr. Selikoff where the mortality of insulation workers was studied and the exposures that they had measured.

I have been engaged in studies of factory populations exposed to asbestos and to other agents, to polychlorinated biphenyls. As these agents were thought to be causing effects, one wanted to look at what was in fact taking place in a large population of workers exposed.

Q. What is risk assessment, Doctor?

A. It is the process of utilizing epidemiological

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data largely in a way that would allow you to make a mathematical -- establish a mathematical relationship between exposures and effect looking at factors such as the concentration, both its intensity and duration of exposure, looking at the time course of the resulting disease.

For example, in many circumstances, particularly with asbestos, the disease is not seen shortly after exposure. It may be seen 20 or 30 years later so you would want to have a measure of what the risk of developing an asbestos-related disease in relationship to the person's age, his exposure and the time since that exposure took place. So it is -- it can be summarized in saying it is the mathematical expression of what the risk is considering all factors that one can take account of.

Q. Have you published articles or monographs in the field of risk assessment?

A. Yes, I have. I have published the criteria document for asbestos for the EPA that went into detail on the risk assessment factors.

I did the risk assessment for the 1986 and 1992 OSHA standard for asbestos where such factors such as exposure and time were taken into account.

Q. Do you serve as an editor on any professional journals?

A. I am an editor, one of the editors of the American Journal of Industrial Medicine, and previously I was also an editor of Environmental Research.

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Q. As a professor of community medicine at Mount Sinai do you hold any administrative position or --

A. I am the responsible administrator for what is called the cancer corps. It is a group of researchers that are undertaking activity relating to cancer risk factors, whatever the activity might be, going from epidemiology to molecular biology.

Q. Do you hold any governmental grants in the field of industrial hygiene or risk assessment?

A. I have a current grant looking at exposures and effects from radon in the home, that seeps into a home from radon producing minerals in the earth.

Q. In the past have you held other governmental grants?

A. Yes.

Q. Doctor, are you familiar with a mineral substance known as asbestos?

A. Yes.

Q. Have you studied asbestos in the context of your research and writing as a risk assessor?

A. Yes.

Q. Have you published any journals regarding the effect of asbestos in the workplace on human health?

A. I have probably produced at least a dozen such

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articles and I referred to government publications that I have written.

It goes not only from workplace air but to general environmental concentrations in the air and also the risk of asbestos in drinking water. There was a concern for that at one time but, fortunately, it was not -- the results were not a great hazard in comparison to air concentrations that we were encountering.

Q. Doctor, as far as the size of airborne asbestos fibers are concerned, can you compare them to a human hair?

A. Yes. The asbestos fibers tend to be more than 100 times thinner than a human hair. A human hair -- you know, the fibers in order to even be inhaled would have to be that much thinner than human hair otherwise they impact on your upper respiratory tract.

Their length often is maybe a 20th or a 10th smaller than the diameter of a hair. So you are looking at fibers that are extremely fine and are broken apart from larger visible fiber bundles that often might be incorporated into asbestos products such as thermal insulation, but it is the ones that are not seen by the naked eye, some not even seen by an optical microscope that are of the greatest concern with respect to health effects.

Q. You mentioned OSHA before. What is OSHA?

A. It is the Occupational Safety and Health

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Administration.

Q. Would you explain your involvement with OSHA as far as the airborne asbestos health risk is concerned?

A. I have consulted with OSHA over the years on asbestos health effects. In 1986 they felt that it would be possible to reduce the -- require a reduction in the concentrations that workers were allowed to be exposed to in the workplace, there being no procedures and engineering technology that would allow such a reduction to take place.

They asked that I develop estimates of the different diseases that might develop from exposures to asbestos at different concentrations and use such calculations of mortality risk over time to support a reduction in the standard to one-tenth of what it had been in previous years. That standard was promulgated in, I believe, June of 1986.

Q. What use did OSHA make of your analysis?

A. It served as the basis -- it was their strongest argument that, and the strongest justification, for the reduction.

They said if you allow the current standard to continue, workers could be legally exposed at a level at which there would be roughly 5 or 6 percent expected to die of asbestos disease working at a

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legal standard. That was deemed totally unacceptable and they then required it to be reduced by a factor of 10 but stated that even then there was still a substantial risk, nearly a 1 percent risk, of death, and indicated that all measures should be taken to reduce workplace exposures even lower than that allowed.

They felt that it could not be universally applied without a great cost and they had to take into account not only the hazard but they had to take into account the feasibility of applying a standard.

That is what was limiting their setting a standard at that time. They have subsequently reduced it even further, just recently.

Q. You mentioned the EPA. What is the EPA?

A. Environmental Protection Agency.

Q. What use did the EPA make of your risk analysis?

A. They had -- they were required by the Clean Air Act to produce a health effects criteria document looking at what the hazards were from, in this case, asbestos. It was deemed a hazardous pollutant, and they used that to again indicate what would be areas of activity that they might undertake to reduce exposures to people or the exposures occurring in the environment.

Q. What is the World Health Organization?

A. It is an organization that produces documents on health effects and focuses on health problems throughout the world.

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Much of their focus is on developing countries where they assess countries to control disease patterns but they also have concerns for exposures in the workplace throughout the world.

Q. Have you done any work with the World Health Organization regarding asbestos?

A. I have certainly consulted with them and participated in conferences that they have held.

Q. Have you written any criteria regarding exposures to asbestos?

A. Let me look. I forget for the moment. I will look at my CV. I have written in journals that they have been, I don't know, supporting. But I don't recall --

Q. Okay. That is --

A. A criteria document at the moment.

Q. Doctor, over the course of your career how many patients have you examined regarding exposure to asbestos?

A. I don't examine patients other than to interview them with respect to their exposures.

Q. That is what I meant.

A. That would be probably 1,000 or more. We have conducted extensive examinations of asbestos exposure to workers. It was a study of 2900 insulators that Selikoff directed ten years ago and I participated in and would have been involved in eliciting

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information on their work activities, factory workers and many others, so it is in excess of 1,000 to my belief.

Q. Doctor, have you ever been qualified as an expert witness regarding the effects of asbestos exposure in the workplace on the health of workers?

A. Yes.

Q. Within the past few years how many times have you testified at asbestos-related trials?

A. In probably the last five years, approximately 15.

Q. Have any attorneys who represent asbestos defendants ever referred cases to you for your review and evaluation?

A. Generally, none. I have provided information on exposures.

THE COURT: I have to tell you about our tribal customs here. When a question is asked, you answer that question and don't make any explanations. If he wants an explanation, he will ask for it.

Q. The question was simply whether you -- any attorneys representing asbestos defendants had ever referred cases to you for review or evaluation.

THE COURT: That question can be answered either yes or no.

THE WITNESS: They probably have.

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THE COURT: Yes or no?

THE WITNESS: I don't remember.

THE COURT: I apologize.

THE WITNESS: It has been a small aspect of my activities so I don't remember such a case for the moment but I get a lot of calls from such people.

Q. Prior to this case, Doctor, had you ever testified on behalf of a patient that my firm was representing?

A. No.

Q. Prior to this case, have we ever met before?

A. No.

Q. What is your professional fee that you charge for the time you spend testifying in a trial?

A. In a court setting or a deposition it is $250 an hour.

Q. Doctor, are there any diseases associated with exposure to asbestos fibers?

A. Yes.

Q. Broadly speaking, what are the categories of those diseases?

A. There are two classes of diseases. One is a scarring of the lungs produced by the fibers that are, enter the lung and impinge and remain there. It is called asbestosis.

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It just produces a scarring that ultimately makes breathing more difficult for the individual involved. It can also produce scarring of the lining of the lung.

The second class of diseases are various malignancies that are produced by asbestos exposure including lung cancer, mesothelioma which is a cancer of the lining

of the lung and it is very rare in the absence of asbestos exposure in the general population but it is a lining that encases the lung that can become cancerous and is commonly seen in asbestos-exposed groups.

Asbestos also produces gastrointestinal cancer, cancer of the esophagus, stomach and colon. It can produce kidney cancer. There is some uncertainty that asbestos exposure plays a role there.

It is a carcinogen that is active in many sites in the human body.

Q. Do you have any expertise regarding what the effect of varying amounts of asbestos exposure has on the development of asbestos-related diseases?

A. I believe I do, yes.

Q. Doctor, is there a relationship between the amount of a person's asbestos exposure and the development of asbestos-related disease?

A. Yes, there, indeed, is.

Q. Has there ever been an established threshold of exposure for asbestos-related disease?

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A. There are no data that would establish a threshold for the asbestos-related cancers. The scarring occurs at low exposures but one may not see manifestations of it in a human respiratory system in that the changes in any breathing parameter evaluated would be

extremely small and may not exist at very low concentrations but with the cancers which are the dominant concern from asbestos exposures, there are no known threshold to my judgment -- no data establishing a threshold.

Q. Doctor, are you familiar with an asbestos disease by the name of mesothelioma?

A. That is the name of the cancer that produces -- that is produced -- that evolves from the lining of the lung and is produced by asbestos.

Q. Is there any scientifically known cause of mesothelioma?

A. Asbestos exposure.

Q. What about cigarette smoking, does that play any part in mesothelioma?

A. It has not been shown to be related to mesothelioma.

Q. What is the latency period for mesothelioma?

A. That is a very long period, between first exposure and development of disease.

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Most cancers occur 20 or more years from when exposure occurs. Some have occurred as early as ten years but the chance of that happening, even from heavy exposures, is extremely low.

The cancer is one where most cases, indeed, usually occur 30 or more years from exposure. It is a continuously rising risk according to time from the asbestos exposure.

Q. When a worker's exposure to asbestos stops, what happens to the risk of developing mesothelioma?

A. It continues to rise. In the absence of additional exposure, if there were additional exposure, it would rise a bit faster.

The disease in its total magnitude at any point in time depends upon the magnitude of the exposure but it is one in which the risk continues for 50 or more years from when exposure -- continues to rise for at least 50 years from when exposure began.

Q. Are there any scientific case studies regarding workers who have developed mesothelioma from exposure to asbestos in work places?

A. Yes. There are many studies evaluating the risk. There are the studies of Dr. Irving Selikoff on insulation workers, of various groups on workers exposed in different factory settings, in mining and milling.

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There is probably half a dozen or more studies in which one could have good quantification of the risk with time. There are many more studies in which the fact of disease occurs but the relationship with exposure and time has not been evaluated. It is just looking at a population and see the deaths that have occurred in that population.

One can in roughly half a dozen studies obtain what would be quantitative risk assessments for mesothelioma in relationship to exposure.

Q. Are there any clinical studies of workers developing mesothelioma from regular workplace exposure of less than three years?

A. Oh, yes. There is a study of Dr. Selikoff of a factory in Paterson, New Jersey in which the average duration of employment was about a year-and-a-half and roughly five percent of the people in that factory later developed mesothelioma and, I believe, five family members also did who were exposed by virtue of the dust brought home on the clothes by the workers, the exposure to the family member in the home either from dust dispersed in the home or, in the case of the wife, from shaking out the clothes and washing them, perhaps.

Q. Doctor, as far as you know, is there anything such as a safe level for asbestos exposure with regard to mesothelioma?

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A. I do not know of one. I do not believe there is one.

Q. Doctor, is asbestos exposure also associated with the development of lung cancer?

A. Yes, indeed, it is.

Q. What effect does asbestos exposure have on lung cancer?

A. Its effect is to multiply what the underlying risk of lung cancer would be in the absence of exposure.

That multiplicative effect begins about ten years after the exposure occurred. As the exposure continues the magnitude of the multiplier increases but the risk of lung cancer is proportional to the asbestos exposure up to a time ten years previous.

This multiplying risk is one that continues for decades thereafter. In other words, even if the exposure stops, the person's risk of lung cancer will be increased by a factor proportional to the exposure and that proportional increase continues for at least three to four decades.

Q. Does cigarette smoking also cause lung cancer, Doctor?

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A. Yes, indeed it does.

Q. Have there been any studies regarding the combined effect of cigarette smoking and asbestos exposure?

A. Yes. They have shown that this multiplicative effect applies to the underlying risk of lung cancer that one would have. The risk of a cigarette smoker is multiplied by asbestos exposure. Asbestos exposure acts synergistically, they act together, in a multiplicative way, such that the combined risk is much greater than the separate risk from either agent alone. What the asbestos is doing is multiplying that cigarette smoking risk.

Q. Dr. Nicholson, what is asbestosis?

A. That is a spectrum of --

MR. LANDMAN: Objection, your Honor. I think this is cumulative and I don't think there is much dispute about what asbestosis is. I mean, Dr. Markowitz talked about it this morning. I don't know how many times we need to hear it.

MR. GOETSCH: I can move on, your Honor.

Q. Is there any known cause of asbestosis other than exposure to asbestos fibers, Doctor?

A. By definition there would not be, but one can have scarring of the lungs from other agents, and they are likely to give different appearances, but

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that is certainly a possibility. Usually, for example, one distinguishes readily between silica-induced fibrosis and asbestos-induced fibrosis. There are characteristic patterns that are usually well elucidated, particularly with exposure information, by radiologists.

Q. Doctor, is it necessary to have asbestosis in order to develop mesothelioma?

A. No, it is not. Not to a clinical degree. I mean, one can have mesothelioma with no clinical evidence of asbestosis.

Q. Doctor, are asbestos-related diseases preventable at all?

A. Yes. You prevent the exposure, either by controlling the release of asbestos in the workplace with exhaust devices or, if that is not possible, to have respiratory protection that would, to a very large extent, prevent inhalation of the fibers that might be released.

Q. Doctor, did you interview Michael Buckley at Mount Sinai Environmental and Occupational Hazard Clinic?

A. Yes, I did, sometime in February, I believe.

Q. Would you give us the date of your interview? If you need to refer to your report, you may.

A. It was February 4 of this year -- I am sorry, of 1994.

Q. Was he also examined by Dr. Markowitz at that

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time?

A. Yes. We did it jointly.

Q. Did Dr. Markowitz write a report regarding Michael Buckley?

A. Yes.

Q. Have you read that report?

A. Yes.

Q. Is that report of the type reasonably relied on by experts in your field?

A. Yes.

Q. Have you so relied on it?

A. Yes. We are both, in fact, writing about the same thing, so it was very reliable.

Q. Did you take an occupational history from Mr. Buckley?

A. Yes.

Q. Would you tell us what occupational history you obtained?

A. We obtained his work history from the time he was in high school and the work that he did there, and then, shortly thereafter, his work with the railroad industry. I think he was first with the -- I will have to look at it -- with Conrail, and then he went to Metro-North in 1985. We investigated whether there were any asbestos exposure in the different activities that he had. He worked as a plumber

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until roughly the age of 27. There may have been some asbestos exposure, but it would have been very low in those years, as he indicated to us when he worked with locomotives, which did not involve insulation material, but he certainly obtained substantial asbestos exposure in Metro-North beginning in 1985.

Q. Would you tell us what the details of that occupational history were?

A. He was asked to work on steam tunnels and other -- I am sorry -- steam pipes in tunnels and other pipes as well, I believe, in the area about and underneath the tracks of Grand Central Terminal. There's about four or five major tunnels there. It involved replacing pipes and valves, but prior to his being able to do that, he would have to remove all the old insulation, which took a considerable amount of time because in some cases it had wire mesh about the pipes. And this was done by hammer and saw and ax and other methods of dislodging the material from the pipes. He estimated that, on average, he would spend about one hour a day doing such removal activity, and the rest of the time he would still be exposed to asbestos which would still be in place, as debris, some of it would be there as debris thereafter, but his work over the majority of the day was that of a pipe fitter replacing piping

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and valves. He would also have to sweep up the debris, again a dusty activity.

Q. Doctor, did you review any documents from Metro-North regarding the presence of asbestos in Grand Central and the type of asbestos present in Grand Central during that time?

A. There was a document produced for Metro-North, by a company called Environmental Health Protection Consultants, that in 1986 investigated the presence of asbestos in various areas of Grand Central Station.

They reported in these tunnels approximately 150 samples that were taken. I believe one of them was a sample that did not contain asbestos. The others did, and it contained largely an asbestos mineral called Chrysotile. Some contained a mixture of Chrysotile and another asbestos mineral called Amosite. There are, in fact, five different fibrous minerals that -- six different asbestos minerals that fall within the classification of asbestos, and they have different uses, but the ones that are most commonly used are, firstly, Chrysotile and then Amosite, which is what was found in these samples by this organization.

Q. Was that result in that document that you just mentioned consistent with the occupational history that you took from Michael Buckley?

A. Yes. He was describing in his work quite powdery

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material that was released by his hammering. The most common material used for thermal insulation has one of two white powdery materials into which are placed about 10 to 15 percent asbestos fibers for reinforcing, both for insulation, both the fibers and either the calcium silica or magnesium that would have been used as the bulk material, and to withstand temperatures that were produced by the steam within the pipes so insulated.

But when removed from the pipes in the manner described by Mr. Buckley, these little fibers get dispersed into the air, and the concentrations are ex-

tremely high in that activity and extremely dangerous for long-term or even short-term inhalation.

Q. Doctor, have you conducted any personal inspections of the Grand Central Terminal in regards to asbestos conditions?

A. Yes. Mr. Buckley showed us the areas in which he was working in I believe it was July of 1994, but in the summertime. The areas in which he worked were now covered and looked very nice and neat. But he would show us a pipe and said, "This was one of the pipes that I had to knock the stuff off from here to there." And the spaces in which this was being done were relatively confined often and would produce a concentration that would last. They were not open where the dust could drift away or be blown away by outside air, as would be the case if one were

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doing such work in a tall, open skyscraper building under construction.

Q. Doctor, how did the condition of the steam tunnel pipe insulation in July of '94 compare with your understanding of their condition in '85 to '88?

MR. LANDMAN: Objection. He wasn't there in 1985 to 1988; foundation.

MR. GOETSCH: I asked him for his understanding based on the history he took from Michael Buckley and the Metro-North report that he reviewed.

THE COURT: I will allow it.

A. The description that Mr. Buckley told us of the conditions in his work activity in 1985 was substantially different. Instead of the pipe covering being nice and covered, it was often broken, there would be debris. But even if it were enclosed, if he had to take it off by the means that he did, it is his removal activities that are producing a great deal of dust. There would be debris that he would stir up and add to his exposure in '85 and subsequent periods of time.

Q. Doctor, does the type of asbestos that a worker is exposed to have any significant effect on his future risk of developing asbestos-related diseases?

A. It does in some cases. There is one type of asbestos that would appear to have a greater propensity

for producing mesothelioma, but that is a type, it is named Crocidolite, that is rarely used. It is used often for insulation in acidic conditions. They used to put it in battery boxes. With respect to the types of asbestoses that are used in thermal installation, either Amosite or Chrysotile, the data that exist indicate that Chrysotile and Amosite are equally potent in developing mesothelioma and equally potent in developing lung cancer.

Q. Doctor, what was the type of asbestos at Grand Central Terminal?

A. Largely Chrysotile but a substantial amount of Amosite was also present.

Q. Does the fact that it was largely Chrysotile asbestos have any effect on your opinion regarding the degree of his risk?

A. No, it does not. The data obtained from the analysis of the mortality experience of insulation work clearly shows that the period when they were exposed largely to Chrysotile has created the same risk as the period when they were exposed to a mixture of Amosite and Chrysotile, that being a period when Amosite was introduced, which was the late 1930s. The risk from exposure in the two separate periods would appear to be the same, indicating the Chrysotile and Amosite had similar characteristics, similar potencies of carcinogenicity.

Q. Doctor, have you published any study of the

effect of Chrysotile asbestos versus the effect of Amosite asbestos?

A. Yes, I have. I have produced an analysis with respect to workers exposed in different periods of time when the two mixes of the two fibers were present.

Q. What is the most recent study that you published regarding the difference between Chrysotile and Amosite?

A. There is one that is in print that was published late last year, September-October perhaps. I made a presentation extending the analysis at an international meeting held in Milan -- in a town near Milan, in

October of 1994, and the proceedings of that meeting will be published sometime this year.

Q. Doctor, does OSHA distinguish between exposure to Chrysotile versus exposure to Amosite asbestos?

A. They do not. They consider them equally potent. Very explicitly so. I mean, it isn't an omission. They state so.

Q. Doctor, did you prepare a written report regarding your findings and conclusions concerning Michael Buckley's exposure?

A. Yes.

Q. Did you determine the concentration of asbestos fibers generated by the removal of asbestos pipe installation by Mike Buckley during that '85 to

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'88 period in Grand Central Terminal?

A. Yes. Based upon different reports of concentrations, including our own measurements in that area, one can estimate average concentrations for the full day. You have just enormously high concentrations during removal, especially by the means as described by Mr. Buckley. And it was my view that his one-hour exposure produced an average exposure over a day in excess of the typical exposure of an insulator who is largely applying new insulation material. That can release dust. At some time the material is kind of sawed, but mostly they are working with wet material such as cement which is now being applied over the

material. And based upon after comparison of the mortality of these insulators, who work steadily for typically 25 to 30 years, compared to Mr. Buckley, having, in my view, the same exposure but only for three years, I could estimate what would be his risk of developing an asbestos-related cancer as a fraction of the time that he spent in such work compared to the period that the insulators, under studies that we have conducted in Mount Sinai, spent in their lifetime profession.

Q. Did you determine the peak concentrations of his exposure and the average concentration?

A. The removal work tends to produce concentrations

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in the tens of fibers per milliliter up to 1,000 fibers or more per milliliter, depending upon the activity that is done. Let me just explain the measurements, because you put them in perspective.

The concentrations are measured by counting fibers of a specified size that are collected on a filter paper using an optical microscope. They are measured in terms of fibers per milliliter. A milliliter is about a thimbleful of air. So that is what we are looking at.

The average concentrations measured in a British study with about 30 or 40 measurements, or even, indeed, 100 -- I am sorry -- 200 measurements, had average concentrations exceeding 100 fibers per milliliter during this work activity. The current asbestos standard in the United States today is one-

tenth of a fiber per milliliter. So we are looking at something that is just egregiously high.

The long-time exposure of insulators were between 10 and 15 fibers per milliliter in land-based work, and perhaps 15 to 20 in shipboard work. So we are looking, then, at concentrations in one hour that can give you the same exposure as an insulator gets over a day, that he works eight hours, ten fibers per milliliter, and Mr. Buckley, one hour and 100 fibers per milliliter. In fact, insulators work only half time using asbestos, as their average concentrations are even lower than 10 to 15.

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It was on that basis that I estimated that Mr. Buckley's one-hour exposure was similar to the exposure of insulators in earlier years, in the '50s and '60s and '70s.

Q. Doctor, in the field of exposure measurement and risk assessment, how much risk is considered to be a significant risk?

Mr. LANDMAN Objection, your Honor.

MR. GOETSCH: Your Honor, he is an expert in this field and I am asking him to define.

MR. LANDMAN: What does "significant" mean?

THE COURT: First have him define what "significant" is.

Q. Doctor, what is the significant increased risk in the field of risk assessment?

A. That's been debated, but there is a discussion of that in a standard that OSHA promulgated with respect to benzine that was taken, I believe, to the Supreme Court, but this might have been a discussion of a District Court, in which they were judges, now, who were attempting to answer that question. And they stated, and it is published in the --

MR. LANDMAN: I object if the witness is basically telling us what is in some court opinion. I don't know how that can possibly be useful information in terms of what this expert is providing.

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THE COURT: Yes. Counsel wants to know what your definition of significant risk is.

THE WITNESS: Well, I think you should eliminate risks at, well, certainly 1 in 1,000 is a highly significant risk. 1 in 10,000 is something that I would take effort to reduce, and even lower levels. But risks -- I wouldn't want to be part of a group of 1,000, one of whom was going to have a very high likelihood to die from a particular exposure. I wouldn't even want to be part of a group of 10,000. And you are down to 1 in a million: there is not much one can do about such risks, but --

THE COURT: Why don't you define which point in this range this plaintiff comes? Is that what you want to know?

MR. GOETSCH: That is what I am leading up to, your Honor, yes.

Q. Doctor, had OSHA ever taken a position on how much increased risk is a significant increased risk?

A. It has --

MR. LANDMAN: Objection. What difference does it make how much risk is a significant risk that OSHA may have taken?

MR. GOETSCH: Your Honor, I think it is relevant. We have the OSHA POL standard, for example, which is in evidence and will be part

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of the case.

MR. LANDMAN: That is a different question. I have already stipulated to that. If he is asking again for the third time what the PEL is, we know what it is. We have heard it three times already this afternoon -- the permissible exposure limit. But this question is a different question.

MR. GOETSCH: Your Honor, it goes to what the permissible exposure limit is.

THE COURT: He doesn't have to tell us what OSHA is. You can read the OSHA regulation yourself, can't you, to the jury?

MR. GOETSCH: Yes, your Honor. I am just trying to quantify that.

THE COURT: It is what his view is, not what OSHA's view is. It is what his view is.

Mr. GOETSCH: All right.

Doctor, as far as you are concerned, as an expert in the field of risk assessment, what amount of increased risk do you consider to be significant?

MR. LANDMAN: Objection. I think it has been asked and answered. I thought he said 1 in 10,000 he would think would be highly significant. 1 in a million he said wouldn't be.

THE COURT: What I want to know is: What risk do you think this man is suffering from, what

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percentage risk? Can you tell with reasonable medical certainty, as we say, can you tell what percentage risk this man is suffering from?

Q. Doctor, do you have an opinion as to the amount of increased risk of dying from cancer that Mike Buckley has incurred as a result of his exposure to asbestos in the Grand Central Terminal from 1985 to 1988?

A. I believe it is between 1 in 100 and I in 20.

THE COURT: 1 in 100 persons?

THE WITNESS: That's right. And it's very likely to be above that and it could be as high as 1 in 20.

THE COURT: All right.

Q. Does that risk of dying of cancer include both lung cancer and mesothelioma?

A. Yes, it does. And the other cancers that I mentioned as well.

Q. Will you tell us how you arrived at the degree of risk of between, was it 1 in 20 and --

A. 1 in 100 to 1 in 20. From 1 percent to 5 percent.

Q. All right.

A. That would be my view as his chances of developing a cancer as a result of his asbestos exposure. What I did was look at, if I can get that out, the

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mortality experience of insulation workers who, particularly the group studied who were employed for about 25 years, and in that circumstance roughly 40 percent of their deaths are the result of their exposure to asbestos and about 30 percent are cancer deaths, the other roughly 10 percent being asbestosis, and a death from asbestosis is not something Mr. Buckley has to worry about, although he might develop shortness of breath.

If one takes the various cancers, and, in the case of lung cancer, a typical average smoking habit, some smoking a pack or two a day, but using a one pack a day average, compared to Mr. Buckley who stopped smoking and now is perhaps smoking one cigarette a day, and reducing the underlying risk correspondingly, that is, considering only the insulators who have one-tenth the excess risk that was seen, using that basis without adjustment for the other cancers, then reducing those excess cancers by the ratio of 3 years to 25 years, I developed a number of excess cancers that group might expect to have were the exposure such as Mr. Buckley developed, compared to the number of deaths in the group that occurred. That led to an estimate that, instead of 30 percent of their deaths being the result of asbestos exposure, 2.3 percent would be the result. That is less than the ratio of 3 to 25, which is 12 percent, and that is because of the reduction in the underlying risk of lung cancer

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that asbestos multiplies, considering a smoker, regular, pack a day, compared to Mr. Buckley at most at one cigarette a day. For a while he was not smoking at all. So the median value that I obtained from the calculation was 2.3 percent. The uncertainty of the process certainly would have the range go from 1 percent to 5 percent, which is what I conveyed to Mr. Goetsch in my report to him last March.

Q. Doctor, how does the risk of 1 in 100 compare to a risk of 1 in 1,000?

A. It is ten times greater.

Q. How does the risk of 1 in 20 compare to a risk of 1 in 1,000?

A. It is 50 times greater.

Q. Doctor, do you know of any way that Mr. Buckley's increased risk of dying of cancer from asbestos exposure could have been entirely prevented?

MR. LANDMAN: Objection.

THE COURT: I didn't get the question. Could have been what?

MR. GOETSCH: Could have been entirely prevented, your Honor, was the question.

THE COURT: What does that have to do with anything? Sustained.

Q. Doctor, is Mr. Buckley at any risk of developing pleural plaques or scarring?

A. Yes, he is. Additionally, he could have

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calcification and fibrosis of the lining of the lung, not malignant. He could have fibrosis of the interior of the lung which is involved in the passage of oxygen into the bloodstream. So there could be some shortness of breath resulting from this, and it depends upon both the circumstances and the body's response to the fibers as to the degree of that shortness of breath.

Q. Doctor, during the period of 1985 to 1988, did OSHA have any regulation governing the permissible exposure level of workers who handled asbestos on the job?

A. Yes. The level in 1985 was 2 fibers per milliliter. In June of 1986, they mandated that the permissible exposure limit be two-tenths of a fiber per milliliter. So they reduced it tenfold in that period of time.

Q. Doctor, can a worker incur an increased risk of developing asbestos-related disease even if he is exposed to asbestos fibers below OSHA's permissible exposure limit?

A. Yes, he can. In the 1986 standard it was estimated that if one were to get that permissible exposure limit of two-tenths of a fiber for a working lifetime, there would be between six- and seven-tenths of 1 percent chance of dying of asbestos cancers. So it was not

completely protected, but it was one that was feasible at that time in considering the circumstances in U.S. industry.

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Q. Doctor, are you familiar with a personal air monitoring test?

A. Yes.

Q. Briefly, what are they and how are they conducted?

A. Well, it's a mechanism for obtaining information on the exposure worker. One starts with a little pump, vacuum pump, that draws air through the a cassette holding a filter paper, and there is a little tube going from this set of about that diameter (indicating) with the filter paper in it. This cassette is clipped to one's collar or lapel. The pump is activated, drawing a specified measured quantity of air carrying the asbestos fibers that happen to be present in the breathing zone of the workers. So you are measuring asbestos drawn in where the worker would inhale it. Through this filter paper, one can have the pump operating for half a day or whole day or shorter periods of time, depending upon the circumstances. This is then taken to a laboratory, the filter paper is cleared by a liquid so that the fibers can become visible, and they are counted over a specified area. Then, knowing the volume of air that went through that area, one can get a measure of the concentration of these counted fibers per milliliter of air, which relates to the standard.

Q. Doctor, are you aware of whether there were any

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personal air monitoring test results for Michael Buckley while he was working with asbestos between '85 and 1988?

A. Not for Mr. Michael Buckley, to my recollection, or to my awareness even.

Q. Doctor, do you have an opinion as to whether the amount of airborne asbestos that Mr. Michael Buckley was exposed to from June of '85 to June of '88 was in excess of OSHA's permissible exposure limit?

A. I believe it was far in excess of it.

Q. Does the lack of any personal air monitoring test for Mr. Buckley during that period have any effect on your opinion regarding the harmful amount of asbestos over the OSHA limit that he was exposed to?

A. No, it does not, because I am relying upon measurements of that process or processes even more carefully done than Mr. Buckley described, for my estimate of what his exposure was.

Q. And those exposure that you are referring to, are you referring to measurements taken of insulator workers?

A. Yes. The average exposure insulation work in Great Britain, measured by well over 100 air samples, both area samples and personal samples, was in excess of 100 fibers per milliliter. some personal samples in the United States also exceeded 100 fibers per milliliter in land-based construction, were

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averaging less, but, considering Mr. Buckley's confined spaces, I believe the higher values are more characteristic of what he would be experiencing.

Q. Doctor, what is the effect of a worker wearing a respirator while working with asbestos?

A. It's simply to obtain a measure of what his exposure is. It doesn't interfere with his work at all. In most circumstances you have the pump in his back and a little plastic tubing coming over the shoulder.

Q. Do respirators that asbestos workers use have to be fit tested?

A. I am sorry, did I answer a different question than you asked?

Q. Well, I asked you about respirators.

A. I am sorry, I thought you were talking about --

Q. Personal air test?

A. -- personal air test. Cancel that last comment.

Q. The question referred to respirators, and what I had asked you was, what effect did wearing a respirator have on an asbestos-related exposure?

A. It is a means of preventing some or a great deal of the exposure. There are different types of respirators. One can have a half-face respirator in which there is a rubber-type face piece that in principle provides a

seal between the skin and the respirator. In the respirator itself there is a filter that

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will filter out the asbestos fibers. The filters typically work very well. The face seal doesn't work so well at times and so there can be some leak. With approved respirators -- I am sorry. Could you ask the question again, please? I am sorry. I was sidetracked.

Q. I had asked you about the effect that the respirators have on the amount of exposure on the asbestos workers.

A. Well, on average, the material that was in the air, that is, in the area, the material that has been released by the happenstance activity, if there is a break in the seal between the round edge of this half-face covering, on average they can feel that maybe the activity can rise to -- can, on average, encounter 10 percent of the possible activity. So with the material that is drawn up into the air, one can, with a half-face piece of a well done covering mask, feel that one can remove the dust from 90 percent. If you go to a full-face respirator, it goes higher and finally you can get much more comfortable. It depends upon the full regalia versus a face mask.

Q. Doctor, is there such a thing as a fit testing a respirator?

A. Yes.

Q. What does fit testing a respirator mean?

A. It tends to minimize the degree that a face mask

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will release. You look at it. You look at particularly the face mask with the thumbs. Unfortunately, initial fit testing may not work for very long. You can bump in the workplace, and so there can be activities that release the fit that would be ideal in a respirator. That is particularly the case with these half-face respirators, where there is a fit over the nose and around the mouth. As you get to more complicated, full-cover respirators, the fitting will be better over time.

Q. Doctor, let me ask you about the risks of mesothelioma that Mr. Buckley has in relation to his smoking history of smoking cigarettes'.

A. It is unaffected. The mesothelioma risk is not dependent upon how much an individual smokes, other than that the person may die of lung cancer from cigarette smoking and be shorter in life, and that is over a lifetime.

Q. Doctor, which asbestos-related cancer does Mr. Buckley have a greater risk of, mesothelioma or lung cancer?

A. Mesothelioma, because he has stopped largely the lung cancer, the smoking that he undertook, and a large portion of the lung cancer risk, after about ten years, you would lose approximately 80 to 90 percent of the cigarette smoking risk that he had

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developed as a cigarette smoker. He is now apparently smoking a cigarette a day. That will add to his risk over time, but it is one that is much much smaller than that of a pack a day. The mesothelioma risk is unaffected by either his stopping or starting again, and accounts for roughly 50 percent of his risk.

Q. What accounts for 50 percent of the risk?

A. Mesothelioma.

Q. Doctor, prior to going to Mount Sinai, Mr. Buckley, did he have a history of smoking cigarettes?

A. Yes.

Q. What was the history that was recorded?

A. It was as much as 1 pack a day, often was less, but it ranged from a pack a week to a pack a day, from the time, beginning when he was age 17. I would imagine that it would increase from age 17. He would not start out at a pack a day at age 17, but over time that he was smoking, from roughly 1980 -- since he was 17, to roughly 1991 or '92, he smoked cigarettes. Let's see, he was 30 years old in 1985, so he was born in '55. He would start smoking in the early 1970s.

Q. Doctor, what happens to the risk of developing cigarette smoking when a smoker reduces his smoking to less than one cigarette a day, on average?

A. The risk that would be encountered within a year or two will decrease, the smoking-related risk will decrease over a ten-year period of time to roughly

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20 percent what it would be had it continued with no increased risk, and then there is probably a further reduction after ten years. There is a very substantial risk, relative risk of -- a substantial reduction in the relative risk of cigarette smoking with cessation of exposure. There is not a reduction in relative risk of lung cancer from stopping asbestos exposure. The asbestos fibers are going to be in your lungs and are going to stay there. And the risk from the past exposure to asbestos does remain but that cigarette smoking risk can be partially removed, if not totally removed.

Q. In your opinion, as a risk assessment, does Michael Buckley have a reasonable scientific basis to fear that he will develop asbestos-related cancer in the future?

A. Yes. To the degree that I just gave, between 1 and 5 percent, I believe. It would be his chance of developing, his chances of dying of an asbestos disease.

Q. Can you tell us what amount of that risk is from mesothelioma as opposed to lung cancer in quantitative terms?

MR. LANDMAN: Objection; already answered. He already said it is 50 per cent of the risk.

Q. As far as the lung cancer, what is the quantified amount of that increased risk?

A. That is one cigarette a day. It is between 10 and

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20 percent, closer to 10 percent

Q. Doctor, assuming that --

A. -- of the asbestos-related risk, total.

Q. Doctor, assuming that Mr. Buckley has a statistical future life expectancy of 36 years, does he have a reasonable scientific basis to fear the development of asbestos-related cancer for the rest of that statistical life?

A. Yes.

Q. Doctor, have you reviewed a report by Dr. Balzer regarding Mr. Buckley?

A. Yes.

Q. Is that a report of the type reasonably considered by experts in your field in forming opinions?

A. Well, he was not providing the basis for his exposure. He made a statement that the exposure was nil.

MR. LANDMAN: I move to strike as not responsive, your Honor.

THE COURT: What is that?

MR. LANDMAN: I move to strike that response by the witness as not responsive.

Q. First, let me just ask you, Doctor, whether you considered Mr. Balzer's report or Dr. Balzer's report regarding Michael Buckley.

MR. LANDMAN: First I have moved to strike something.

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I guess the Court needs to rule.

THE COURT: I strike the question.

MR. LANDMAN: And the witness's answer has been struck?

THE COURT: Yes, it has been stricken.

Q. You did consider Dr. Balzer's report as part of the total picture?

A. Yes. I remember reading two of his reports, and I generally remember reports, but I don't have them with me so I can't answer explicitly on a particular sentence.

Q. Are those reports of a type generally relied on by experts in your field, not necessarily the conclusions but just the type of report?

A. I would say no, without having -- because he doesn't provide a direct link to what are explicit descriptions of work activity and his conclusion. He makes assumptions about work activities that, in my view, are totally incorrect with respect to Mr. Buckley's work.

Q. All right.

A. As I read last summer.

Q. And the assumptions that he makes that were incorrect are what?

A. That he was not removing asbestos to the degree that he was. He was talking about pipe cover work and

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working with pipes. That is not the worry. The worry is taking the asbestos off by very aggressive means for an hour before one can work on the pipes. It is the removal of the asbestos as described by Mr. Buckley that indicates this very substantial exposure to asbestos that produces a substantial risk of disease. That was not taken into account in Dr. Balzer's report.

MR. GOETSCH: Thank you. No further questions at this time.

THE COURT: We will take a brief recess. (Recess)

THE COURT: You may proceed.

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CROSS-EXAMINATION BY MR. LANDMAN:

Q. Good afternoon, Doctor.

A. Good afternoon.

Q. Let me give you back your file, but, Doctor, I have kept a couple things out that I am going to ask you about. I will keep them out but I want to give this to you in case you need to refer to it, okay?

A. Okay.

Q. Doctor, you are not a medical doctor; is that correct?

A. That's correct.

Q. You are also not a trained industrial hygienist engineer, are you?

A. I have taken courses but I am not a certified industrial hygienist.

Q. Or a certified industrial hygienist engineer, are you?

A. No.

Q. I notice that the report you prepared, the very first source you referred to in references -- you listed four references; is that right, in your report?

A. Yes.

Q. The very first one is Balzer, J.L.; Cooper, C.; 1968, the work environment of insulating workers; is that right.

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A. I think I referred to two groups that made measurements of insulation worker exposure, one being Balzer and Cooper and the other being Harries.

Q. When you say you referred to, you relied on some of what the Balzer study found?

A. To some degree, but there are far more extensive data available from Harries.

Q. Let's talk about that. The Balzer study studied which group of workers?

A. San Francisco Bay insulators.

Q. They were hired by the union to do that?

A. I don't know where they received the funding. It may state it in the articles but at this point I don't recall whether it was the industry or the union.

Q. It is your recollection they just studied workers in San Francisco?

A. It would be largely there. That is where they were located, in Berkeley, so it was in the convenience, during the work in the Bay Area was evident.

Q. Who is Dr. Balzer?

A. He at the time was a student in industrial hygiene at Berkeley. Clark Cooper was in the faculty in some role, not necessarily industrial hygiene, but he was, I guess, Dr. Balzer's thesis adviser.

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Q. This is the study that Dr. Balzer did before he had even become a Ph.D.; is that right?

A. I believe so.

Q. Dr. Balzer is an industrial hygiene engineer; is that correct?

A. Yes.

Q. Based upon the fact you cited him, you rely on some of his publications to form your opinion?

A. I was trying to be complete with respect to the information that was available.

Q. You weren't trained as an industrial hygienist, you were trained as a nuclear physicist; isn't that right?

A. Largely speaking, yes.

Q. The subject we are speaking of here has nothing to do with nuclear physics, does it?

A. Not at all.

Q. You mentioned that you were in the Air Force from 1952 to 1954?

A. 1955.

Q. Okay. At that time you as a nuclear physicist were studying radiation exposure and the effects on people, is that right?

A. That's correct.

Q. At that time the United States was conducting atmospheric nuclear tests in Nevada with soldiers;

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isn't that right, at the Nevada test site?

A. I don't remember if the soldiers -- what they were doing with soldiers at that point. At some point they certainly had soldiers stationed near the blast. I think they probably did at that time.

Q. Wasn't it from 1951 to 1958 that they conducted the tests and would have the soldiers go out there?

A. Some of the time, yes. I don't know specifically if it happened to be either '55 or '53 which would be the Nevada test site.

Q. What was your role in that experiment?

A. I was making measurements on the radiation that was collected -- radiation exposures that were obtained in the cockpit of planes that flew through the cloud, either that were drones or, in later periods, piloted aircraft.

Q. You have since read articles that said basically those people were guinea pigs, what the effects of radiation were?

THE COURT: Those people were what?

Q. Guinea pigs.

A. Anybody that was actively engaged in the research was likely to be exposed, as was I.

Q. You were in an airplane?

A. No. I was on the ground when they came back.

Q. When they came back from where?

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A. If a plane went through a cloud or nearby and landed we were looking at how much radioactive material collected in the engine or contaminated the surface. I was involved in that.

Q. There were actually infantry soldiers who were actually marched out to close to ground zero; is that correct?

A. I don't know if that was taking place. I don't remember in '55 when I was there and I don't know if it took place two years earlier. At some time that certainly was the case. I just don't remember which series. There were many of them, some of which used people near the center with varying means of protection or not and there is no question that soldiers were marched somewhere near ground zero.

Q. You were apparently making risk assessments with respect -- no, not risk assessments. You were just determining how much radiation was on the airplane when it came back; isn't that right?

A. Yes. I was doing analyses that would indicate what would be the radiation present in aircraft at different times from an explosion based upon measurements made later afterwards but you have other information upon the decay of fission products that would allow you to extrapolate former, earlier in time, to look at

what would be the consequences of a plane flying through a cloud.

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Q. You determined or you agree that radiation is a dose response, has a dose response effect?

A. Yes.

Q. The more you get, the worse it is?

A. Yes.

Q. Do you hold the same position you do with asbestos as you do with radiation?

A. Yes, I do.

Q. So you believe that there is no safe level of exposure to radiation?

A. I don't know if I believed that at the time. I was kind of indoctrinated that that was not the case at that time.

Q. When did you come around to the other side?

A. Probably, in graduate school, when I went to graduate school after that. The kind of dogma was that there was a threshold for radiation that was promulgated in the early 1950s.

Q. What was your rank when you got out of the Air Force?

A. First Lieutenant.

Q. You were an officer?

A. Yes.

Q. When did you go to graduate school?

A. 1955.

Q. That is when you came around to this other side,

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that there is no safe level of exposure?

A. As I looked more into radiation I changed my view.

Q. The first ten articles I think on your resume or CV are all about nuclear physics, not about risk assessment or occupational exposure; isn't that right?

A. Largely they are on physics. There are some on photosynthesis as well.

Q. Doctor, you have now been in this field of risk assessment and occupational exposure for how many years; 1969, right?

A. I went to Sinai in 1969 and initially I was making exposure measurements and it was later that I began to work in relating effects under different circumstances as one would do in risk assessment.

Q. Doctor, how many soldiers from the time of 1952 to 1955 were exposed to ionizing radiation in those tests; thousands, right?

A. I would imagine, yes. I don't know the number. I was in the Air Force and we weren't apprised of all of the details that other services were doing. So that was not part of my experience.

Q. What I am trying to find out is, have you ever written any studies about their exposure and

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their long term health effects?

A. No, because I don't know anything about their exposure.

Q. You haven't spent any time studying that?

A. That is correct.

Q. Have you written any papers saying these people ought to be monitored because they have a higher risk for cancer?

A. The --

Q. Have you, yes or no?

A. I haven't written a paper on that, no.

Q. You have contacts, you say, with OSHA, the federal government. Have you ever done anything to get word out to these soldiers that they ought to be going

to get periodic medicals because they were exposed to radiation which we all know kills people?

A. There is a lot of information that is promulgated.

Q. Have you done that?

A. I haven't done that because I don't know anything about this group that would allow me to make a reasonable statement. I don't know there was a group there. That is what I told you in the beginning.

Q. I am just trying to figure out, you never worked as an insulator?

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A. No.

Q. You never worked as a pipefitter?

A. I put in pipes but I never worked as a pipefitter.

Q. You put in pipes in your house?

A. That's right.

Q. But you did spend a fair amount of your time as a nuclear physicist in the Air Force studying the effects of radiation or the radiation in nuclear bomb tests, didn't you?

A. Yes.

Q. Would you agree with me that you were actually more intimately involved with those soldiers than you

were with any pipefitters that you later studied in terms of your own personal experience?

A. I don't know the exposures or anything about the details of what took place by the soldiers in the bomb tests other than to acknowledge that I certainly read about such individuals being present. I know about the pipefitters.

Q. You said you left nuclear physics for what reason?

A. I was induced to go to Sinai by Dr. Selikoff and work on activities there. I felt that that would be of interest and would be an area where I could see clear benefits directly from the work that I

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would do in relationship to a particular exposure problem, that of asbestos.

Q. You have now, I guess, you have studied benzene; is that right?

A. I have done a little work on benzene.

Q. You studied polyvinyl chloride?

A. Yes.

Q. You studied asbestos?

A. Yes.

Q. Why don't you tell me all the other carcinogens you studied?

A. I looked at PCBS, did work on styrene.

Q. What is styrene?

A. It is a synthetic chemical that can be formed into a plastic. Here we have polystyrene from which I will drink water.

Q. What did you find out about styrene?

A. It is of a lesser -- if I recall, the potential health effects from exposure to it are relatively low. They are certainly lower than that for vinyl chloride.

Q. Vinyl chloride is in plastic?

A. That's right, as a polymer, not as an airborne monomer.

Q. People who work with wrapping meat used to get meat packers disease from polyvinyl chloride; isn't that right?

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A. I don't know whether they got it from -- they got it from chemicals released in the heating. At this point I am not sure what those chemicals were. They can be altered, they can be combinations of other atoms that would be different but, in any case, there was such a thing as meat packers asthma that was reported in some people experiencing ill effects from thermal cutting of plastic.

Q. The last one you mentioned was styrene. Why don't you tell me the rest of the carcinogens you spent any time at all studying?

A. I have done some work on man-made mineral fibers, looked at issues there although that was not a major activity.

Q. Why don't you give us an example of a man-made mineral fiber?

A. Mineral wool or fibrous glass.

Q. Fiberglass?

A. Yes.

Q. Okay.

A. I think that's large -- I had an article in -- but the majority of my activity has been concerned with asbestos-related exposures.

Q. In fact, you get $250 an hour for testifying in asbestos cases, right?

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A. In a court setting, yes.

Q. What do you get for a deposition?

A. The same for a deposition.

Q. You have given some depositions over the last few months that have gone days at a time, haven't they, in one case?

A. I don't remember.

Q. Do you remember the Armstrong case?

A. No. I don't remember an Armstrong case.

Q. Do you remember a case pending in Baltimore, Doctor?

A. There is a case in Baltimore, a shipyard case with many workers. I don't remember the name Armstrong. I remember --

Q. Do you remember the Adams case?

A. No. The names are not something I would recall. Indeed, in the Baltimore case somebody wanted to -- everybody but one lawyer for a minor player in the case wanted to depose me for two days when everybody else was willing not to depose me at all. You should ask the lawyer why that took place, don't ask me, or even the lawyer that I was willing to testify for, whenever the case comes to trial.

Q. You were willing to testify for the lawyer?

A. I was asked -- I am speaking of the lawyer that asked me to testify in the shipyard case.

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Q. Right. First of all, Doctor, what question do you think you just answered that I asked you?

A. The question of did I -- was I deposed for two days and --

Q. Do you think you just gave an answer to that?

A. Yes, I said I was and I said why. What more do you want?

THE COURT: He didn't ask why. That is our tribal custom.

THE WITNESS: Yes, I am sorry.

Q. Doctor, two minutes ago I said, do you remember being deposed for more than one day in a case, and you sat there on the stand and you said you can't remember.

Now, isn't it true that this deposition was on December 27, 1994 and continued on January 21, 1995? You couldn't remember that three weeks ago that you were sitting through a deposition that went some 500-some pages, you forgot that?

A. You were referring to an Armstrong case. I did not immediately think of this particular case because it was -- that deposition played such a minor role in the case.

Q. These 500-and-some pages are a minor role?

A. That is right. I got to tell you that.

Q. Just so it is clear to you, the reason I was

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referring to it as the Armstrong case, Doctor, is because the name of the defendant is Armstrong World Industries. Didn't you know that?

A. I wouldn't remember that.

Q. Because you are involved in so many cases, I take it.

THE COURT: No. He is trying to curry favor with me because he knows I can never remember a name.

Q. Doctor, how much time did you spend last year working on asbestos litigation, either depositions, trial testimony, preparing for it, writing reports and seeing people you were interviewing and conducting investigations?

A. I don't remember the number of hours.

Q. What percent of your income comes from this litigation?

A. Last year, less than 20 percent.

Q. Do you know a doctor Steven Levin?

A. Yes.

Q. Who is he?

A. He works in the same unit as I do at Mount Sinai. He is in charge of clinical studies there.

Q. Does he testify in asbestos cases also?

A. Yes, he does.

Q. Is he the one that got you involved?

A. No.

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Q. Which one got you involved, which doctor?

A. I have no idea. I was probably asked by some lawyer at some circumstances in the past.

Q. Doctor, what percent of the income of this group at Mount Sinai, the occupational group there, gets its money from asbestos litigation?

A. What percentage of the group?

Q. Yes.

A. I know that Dr. Levin and Dr. Markowitz have testified in asbestos litigation.

THE COURT: I don't see how he can know what percentage of income.

MR. LANDMAN: I probably asked the question poorly. I apologize.

Q. My question was, what percentage of the people in your group, either M.D.s or Ph.D.s testify in asbestos litigation?

THE COURT: That is a different question.

THE WITNESS: I was trying to answer that. I interpreted that as your question because I certainly don't know how much anyone does.

The two that come to mind I have mentioned and -- oh, Dr. Suzuki may also do so, so that is three.

Q. How many doctors are there in the group?

A. Professionals?

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Q. Doctors, medical or Ph.D.s?

A. 10 to 15, perhaps.

Q. You are just not sure about some of the others?

A. That's right.

Q. You think that people who are occupationally exposed to benzene have an increased risk of cancer; is that right?

A. Yes.

Q. What percent is the increase?

A. It depends on the exposure.

Q. How about polyvinyl chloride, do you think they have an increased risk of cancer?

A. Not polyvinyl chloride. I am sure vinyl chloride.

Q. I am sorry, vinyl chloride.

A. That is a carcinogen. That percentage is fortunately relatively low. The number of cases per worker employed in the polymerization works that develop cancer is certainly less than asbestos insulation workers. It is not 30 percent.

Q. We will get to this in a little while, Doctor.

Asbestos -- you think people who are exposed to asbestos -- everybody that is exposed to asbestos has some increased risk because you say there is no threshold.

A. That is correct. I believe that is the case.

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Q. You also take the position if you are exposed to PCBs you have a higher risk of cancer, is that right?

A. Yes. Again the percentage of people exposed that develop, in this case, liver cancer is much smaller than with respect to the typical exposures in the asbestos industry. It depends on the exposure.

Q. Right. Exactly. PCBs are what?

A. Polychlorinated biphenyls.

Q. What were they used in?

A. They are a fluid that often is used in heat exchangers, for example.

Q. Batteries; they are used in batteries, right, or they were?

A. They could be, I believe.

Q. Do you know?

A. At the moment I don't recall the battery issue.

Q. Styrene you also agree is a carcinogen?

A. I am not sure what the, about the carcinogenicity that has been shown there. That I don't remember other than it was not to the degree of that of vinyl chloride. I would have to look up the data again. We did look at some group that was exposed to styrene but I don't remember the results.

Q. What about Fiberglass?

A. I believe that can produce cancer. Certainly

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it does so in animals. There is debate about the degree it does in humans.

Q. You think most mineral dusts increase your risk of cancer?

A. I think if it is fibrous and durable, yes.

Q. How about exposure to coal dust, does that have any --

A. Yes. It produces pneumoconiosis that can be very uncomfortable and deadly.

Q. You think that in addition to people who are exposed in the environment just because of background or in buildings and things like that that most people in the construction industry from the 1940s at least until the middle 1980s were exposed to asbestos, don't you?

A. Yes.

Q. You think that, for example, firemen are typically exposed to asbestos because a large part of what a fireman does is not just putting out the fire, but then ripping down walls and ceilings and ripping up floors to find out where the source of the fire is to make sure they have gotten the whole thing out?

A. That is correct. In some circumstances they can be exposed to airborne asbestos, not attacking the vinyl floor tile but releasing largely acoustic insulation and fireproofing containing asbestos.

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Q. You think that people in the automotive maintenance industry, car mechanics and things like that, garages, also have a higher increased risk because of occupational exposure to asbestos; isn't that right?

A. That is correct.

Q. And people who work on steam engines have a higher occupational risk?

A. That's right.

Q. Most railroad employees would have, either through the exposure to steam, power and steam engines and all of the asbestos that was used before we changed over to diesel?

A. People exposed to insulating or who were present in a round house when that was being done would be. I am certainly not going to have every railroad employee developing asbestos disease because to a large extent that which was applied around the steam engine was contained and the other exposures depend upon the circumstances but there are other exposures in the railroad industry but they are minor in degree compared to the thermal insulation.

Q. Let's take the textile industry. You are aware of the fact that there were some textiles that were 100 percent asbestos; isn't that right?

A. Yes.

Q. So people in the textile industry would also be

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exposed?

A. Those making asbestos cloth, yes, but the textile industry that makes clothes is not exposed to asbestos because it is not brought into the plant. It is a very minor aspect of textiles, but there is no question that

someone making fire blankets could be exposed and at risk.

Q. Also people making sound absorption and filtering equipment because it contained asbestos would also be at a higher risk, isn't that right?

A. Some. It may be that that particular industry is one that can minimize exposures to a very large degree. I could imagine how they could. I don't know exactly what the exposures are because I have never studied it.

Q. Obviously you and other people have studied the high level of asbestos exposure in the shipbuilding industry; isn't that right?

A. Yes.

Q. Also there has been a high level of asbestos exposure in the power plants throughout the United States; isn't that right; for example, Con Ed power plants and power plants all around the United States because of the amount of high energy and high power that is conducted, they used asbestos?

A. They used asbestos, and the people constructing

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those plants and those maintaining the plants where they would remove asbestos would have a risk and reapply it while fixing pipes, would have a risk of cancer.

Q. Certainly, you think that anyone who is in the building maintenance industry would also have a higher increased risk of cancer from asbestos exposure because they would be working around asbestos piping, sitting down in boiler rooms and things such as that, isn't that right?

A. Most people would not. Some could.

Q. If you are the person?

A. To the extent that -- with a broom bang away at an asbestos covering of a boiler, yes, but a lot of building maintenance people don't that. They just do tasks that are not ones that would release asbestos fibers. Dealing with asbestos insulated plumbing, they would be exposed.

Q. Anyone that was in the demolition business would have been exposed in the '50s, '60s?

A. Not everybody. You are trying to make a particular circumstance generalized to a whole trade. Some would, a lot would not. It depends on what they are doing.

Q. You have to know what they are doing all the time to know what their exposure level is, isn't that true, Doctor?

A. Largely so. You can make estimates of what the magnitude of the population might be doing something and make estimates of the population risk. for

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an individual you want to know what he was doing.

Q. In rendering your report in this case you relied solely on what Mr. Buckley told you when you reached your opinion in this case; isn't that right?

A. It was from Mr. Buckley's statements, that's correct.

Q. You just took it all and accepted it?

A. Metro-North didn't provide any information to us. I would have been happy to look at what they might have --

Q. Who hired you?

A. I was asked to do a report by Mr. Goetsch.

Q. Did you ever ask Metro-North for information?

A. I did not, that's correct.

Q. We will get to that in a minute.

A. They don't seem to know what Mr. Buckley was exposed to either. They were --

MR. LANDMAN: I move to strike that as non-responsive and I would ask that the witness be instructed to limit his answers to my question.

THE COURT: That is our tribal custom.

Q. We talked about some of these industries. Let's see if we can try to quantify it.

I have here, and I be happy to show it to you, the 1990 census of population for social and economic characteristics in the United States. You are

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aware of the census bureau?

A. Yes.

Q. You would generally accept what they have to say about who does what in this country in terms of work?

A. They do a pretty good job of establishing that.

Q. Because they conduct the census every ten years as they are required to do?

A. Yes.

Q. According to the census bureau, the construction industry in 1990 had 7,214,000 people; the mining industry had 723,000 people; the textile mill and finished textile products industry had 1,800,000 people; the chemical industry had 1,196,000 people; the primary metals industry had 792,000 people; and the transportation equipment industry had 2,532,000 people; and the trucking service industry had 2,400,000 people.

Would you agree with me that, if you accept your no threshold theory, that all of these people have at least some increased risk of cancer?

A. They have risk from the asbestos that is in the general ambient air.

Q. And their occupational exposure?

A. Indeed, I have written a paper looking at the major industries, their number of people within them and the amount of asbestos disease that can be estimated to come from such and that can be compared with

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the amount that is established on the Seer program. I worked in that program.

Q. I didn't include and I should have, there are 732,000 policemen and firemen so assume 350,000 police and firemen?

A. 95 percent that you talked about have a minimal risk.

Q. How big?

A. Sufficiently low that it is little different from what you and I have. It is quite different from what a construction worker would have or a shipyard worker would have or a brake mechanic would have.

Q. Among the group I gave you were 7 million construction workers?

A. Yes. If I had my research paper I could tell you the expected number of mesotheliomas and lung cancers that come from the construction industry going back to 1940.

Q. You don't have that paper with you?

A. I don't have that paper with me. It was something that I have considered.

Q. 75 percent of all New York City buildings have asbestos; isn't that right?

A. I would expect that they would have it in the heating plant.

Q. Does this building have asbestos?

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A. I wouldn't be surprised if it does.

Q. Do you think it has it in the ceiling?

A. It is possible but I am not worried about it because it looks like it is in good condition and well sealed.

Q. Of course, you haven't been here over the whole time this building has been here to know whether it has always been well sealed, have you?

A. I don't and I don't know if it has asbestos or if it had any asbestos previously.

Q. Doctor, is it your belief that all of these people with an increased risk of cancer from their occupational

exposure of asbestos should be medically monitored for the rest of their life even if they have no -even if they have no physical evidence of exposure?

A. Not everybody that has exposure needs monitoring. There would be little that could be found. I think it depends upon the individual, the degree that he or she visits a doctor annually. That is more related to their physical condition in most circumstances than it is a small exposure to some agent.

Q. You know, you are not a medical doctor but working at Mount Sinai you know that generally once someone gets to be around 40 years old they should have an annual physical?

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A. No. I do not think it is necessary. I did not have one at age 40 on an annual basis.

Q. How often would you have it at age 40; not how often you did but how often would you recommend they did?

A. It depends on the individual.

Q. What about if they were a smoker and had been smoking for 20 years at least one pack a day?

A. I would think he should stop and he wouldn't have to go to a physician for lung symptoms that would be desirable to be examined for some time in the future.

Q. If they stop you at least tell them they should keep going for at least 15 years because the risk stays

pretty high for at least 15 years after you stopped smoking after you have been exposed to cigarettes for 20 years, isn't that true, Doctor?

A. For most of the -- again, I am not going -- it depends upon the individual and the circumstances, the degree to which a physician should be visited.

In many circumstances with the risk, even the risk of taking an x-ray exceeds the probability that you will find something that would be beneficial from the particular visit. That is not a field I work in.

I only know that that has been studied by some people and certain things such as annual chest x-rays, the ACS makes recommendations and I would refer you to them.

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Q. Doctor, isn't smoking the most -- the most preventable health risk in the United States?

A. Yes, by cessation.

Q. Exactly. I think you said that because once you are exposed to asbestos you can't do anything about the asbestos and if you are fearful the first thing you should do is stop smoking, isn't that right, because you can control the smoking; you can't control the past asbestos exposure?

A. That is correct. That is the desirable thing to do whether you are exposed to asbestos or not.

Q. What is the history you got from Mr. Buckley as to whether or not be was a smoker?

A. He was a smoker.

Q. What did he say to you?

A. Pardon.

Q. What did he tell about how much he smoked?

A. From records -- I am not sure whether the particular conversation, my understanding is that he began smoking in 19 -- at age 17 and lie continued until the early 1990s when he stopped.

Q. How much did he smoke?

A. He smoked up to a pack a day; some weeks he would smoke a pack a week. He had a range of smoking habits over what I interpreted to be a fair

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amount of time from one pack a week to one pack a day.

Q. Did he ever smoke more than a pack a day?

A. It was not stated and I would suspect that he probably did on occasion.

Q. You have his deposition in your file, right?

A. Yes, I do.

Q. Did you read it?

A. Yes.

Q. Why did you read it?

A. To see what he -- if there was anything in there that was of consequence that would affect my opinion, and there was not.

Q. Did you think his smoking history would affect your opinion in this case.

A. I think the smoking history, as I gave it to you, was roughly the same as was in his deposition. If you believe to the contrary, please read it to me. I don't recall the exact words in the deposition.

Q. What I would like you to show me is where did you get a record or where do you have a note that indicates he smoked sometimes one pack a week?

A. I would wager it is in his deposition.

Q. Okay.

A. But in any case I certainly have read that. Maybe it was in our interview. Since I don't have his interview, my copy of it, let me look at Dr.

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Markowitz's which states that it is from age 17 to 37 he smoked usually less than one pack per day.

I do very strongly remember statements or text that occasionally it was one pack a week. Most likely it would be in his deposition but I don't recall exactly where at this time but I do recall that being part of the range that was either provided to us or is written someplace.

Q. Since you will be back here tomorrow maybe tomorrow you can show us where it says he smoked one pack a day a week?

A. I don't know if it is in the deposition. I will look and see if it is indicated.

Q. The other thing is I think you testified you interviewed thousands of people?

A. For work histories and our clinical surveys.

Q. How many did you interview a week?

A. I beg your pardon.

Q. How many people do you interview in a week?

A. One can do, when you have a large number coming through, 100 or -- in some circumstances for limited examinations I have had as many as 200 a day, I could interview, do a limited occupational interview that may reflect solely activities relating to the particular agent that we are studying that would

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be 20 or 30 a day. (Continued on next page)

Q. Well, Doctor, how is it, then, that you interview

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up to a hundred people a week, a day, whatever, and you tell us that you have a distinct recollection that Mr. Buckley told you when he was in almost a year ago that he smoked sometimes one pack a week?

A. Some place I had read that or remembered that one pack a week was one of the end points of his smoking history. At this point I can't immediately -- I know it was in that piece of paper, or wherever, but I believe I can find it by tomorrow morning.

Q. You think it is in a piece of paper in your file?

A. I believe it is more likely there than any other place.

Q. I have been through your file, and I didn't see any notes of a history.

A. In 15 minutes, if I look through --

Q. We will leave it for tomorrow.

MR. LANDMAN: But I would ask this: As far as the file, I would like the file to stay here, your Honor. If the doctor wants to look it, he can do it at the end of the day. Then, if he has other records in his office, he can bring those in tomorrow.

Q. Doctor, do you have any other records about Mr. Buckley that you haven't brought here today?

A. I have some material.

Q. Such as?

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A. I can't remember the scope of it at this moment, but there was a couple of depositions of coworkers.

Q. Let me ask you this question. Do you have any handwritten notes in your office you didn't bring here today of an interview with Mr. Buckley?

A. I don't know.

Q. You talked a lot about risk, and you were asked a million different questions about percentages and things like that. I just want to go over a little bit of that with you today.

Specifically, you say he has a 1 to 5 percent risk of dying of cancer due to asbestos exposure?

A. That is my view.

Q. That is I in 100 or 1 in 20.

A. Yes.

Q. Then Mr. Goetsch asked you: Well, how does that compare with 1 in 10,000?

MR. GOETSCH: I believe it was 1 in 1,000.

Q. One in 1,000, and you said it is a hundred times higher?

A. No, I said it is 10 times higher to 50 times higher.

Q. What is 1 in a thousand?

A. It is a risk I wouldn't want to take.

Q. No, no. How is it related at all to his health

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or his normal background exposure? 1 in a thousand. Is there any basis for 1 in a thousand, or is that something you want to throw in front of the jury?

A. That was the value that he asked me about.

Q. Mr. Goetsch.

A. Mr. Goetsch. And it was one that was stated to be a significant risk in an OSHA regulation that was promulgated.

Q. This is why we have to deal with all your numbers here. If he's got a 1 in a hundred chance of getting cancer from asbestos exposure, and then you used that and then you told this jury it is 50 times higher than 1 in a thousand, what I want to know is: Does he have a 1 in a thousand chance of getting cancer in the absence of this asbestos exposure?

A. He has a much greater chance of getting cancer from the variety of spontaneous events and other sources of cancer that we are all exposed to.

Q. Exactly. So that when you threw that number 1 in 50 out to this jury, they could have thought, couldn't they, oh, gee, his chances went up 50 times?

A. No, I don't think they would at all.

Q. Frankly, when I was sitting there, that is what I thought.

A. Well, I am sure the jury would do better than you

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did.

THE COURT: We will all agree on that.

MR. LANDMAN: I will agree on that, I will agree on that.

Q. Then let's talk, because you haven't talked about this at all, what is Mr. Buckley's chance of getting cancer from background exposure, from the fact that people get cancer in this country, unfortunately, as they get older, and they get it at a young age, but the longer you live, you would agree, the longer you live the higher your risk of getting cancer is?

A. Absolutely.

Q. So that when you kept telling this jury that his risk of getting cancer from asbestos will go up, the truth is it is because there is a long latency period, isn't that right?

A. That plays a role. He is not going to get it right away.

Q. Of course. And that is also true for other cancers in this country, isn't that right?

A. That's true. So Mr. Buckley has a sizable risk of developing cancer from a variety of causes. There is no reason to add to it. And that is what should be prevented or it could have been prevented by about a little bit of education and a little bit

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of personal protection.

MR. LANDMAN: Move to strike.

THE COURT: Yes.

I think what he wants to know is, how much of this additional percentage comes from his work after you have figured out how much his exposure is: because he lives in this country, he lives in --

Q. -- in New York City, an urban environment; because he works as a pipe fitter but it is assumed no asbestos exposure; because he has a history of smoking at least a pack a day for 20 years, and that he has continued to smoke apparently since then, he says one cigarette a day; and taking into consideration, for example, family history -- do you know what his family history is with respect to cancer?

A. No, I don't.

Q. Wouldn't that be relevant to know what his risk of cancer is?

A. Not necessarily.

THE COURT: We are trying to isolate what risk arose from his dealing --

THE WITNESS: That is what I gave you. That is what I was doing. Mr. Buckley has a 1 to 5 percent chance of dying of an asbestos cancer. On average, one may have a 20 percent chance of dying of cancer without such an exposure. So his chance of

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dying of cancer could now increase from 20 percent to 25 percent. So his cancer risk could have gone up 25 percent, 5 percent divided by 20 percent. But the estimate that I made was for that particular exposure, what is the likely consequences, considering all other causes of death to be typical of a white American male smoking one cigarette a day, as he is.

Q. Now what I would like you to do is to assume the same thing, except assume the person smokes a pack a day from the age of 17, what is the risk -- and you

have all talked about this latency period being 25, 30 years, and what his exposure was when he was about 30 years old -- so let's say at the age of 65 to 70, if he had continued to smoke one pack a day, what would his risk, and taking all these other background factors into consideration, what would his risk be of having cancer?

A. It would be a substantial one. His risk of developing lung cancer would be between 5 and 10 percent of total mortality. So a pack a day to age 60 is a very potent risk factor. He has nearly gotten to that, though, from his three years of asbestos exposure. But he does not have that as a risk factor for cancer, because if he were smoking a pack a day and stopped smoking, the lung cancer risk within ten years, roughly 90 percent of it would be lost. There is a reduction in cancer risk with stopping. There isn't with asbestos exposure.

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The manifest risk is going to continue.

Q. Did you tell him that, by the way?

A. Did I tell Mr. Goetsch that? Yes.

Q. No. Did you tell Mr. Buckley that when you saw him?

A. I don't remember.

Q. Did you urge him to stop smoking?

A. He may have already decided to do so. Yes, he had already stopped at the time he was interviewed. So I didn't have to tell him to stop smoking.

Q. By the way, let's talk about that. Your records show that he stopped smoking in 1991 or 1992, is that right?

A. That is my recollection. You have my records. I don't know if they are there. But in any case --

Q. This is the only other thing I have. I don't think there is anything else in here about smoking.

A. It doesn't matter, my understanding is that it was early in the 1990s.

Q. Let's go back to the number we are talking about here. You already said the general population gets 20 percent chance of getting cancer if they live to be around age 65. What is the percent of people who get cancer if they live to be around age 65 if they are a one pack a day smoker for 30 or 40 years?

A. It would be higher.

Q. It would be higher.

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A. I don't know --

Q. You don't know the number?

A. I don't know the exact number at this point.

Q. Wouldn't that have been helpful for this jury?

A. No, because we are looking at Mr. Buckley, who doesn't smoke a pack a day until age 60.

Q. The only reason he quit smoking was because he was afraid about his asbestos exposure, he claims. So if we weren't here, he would still be out there smoking; right? Yes or no.

A. Maybe he would be apprised of the risks of smoking independent of his asbestos exposure and cease for that reason at some other occasion. A lot of people who smoke and are not exposed to asbestos, indeed stop smoking for the very reason that it will benefit them.

Q. Doctor, I would like to show you -- this is your chart, which apparently has a risk of lung cancer. Did you prepare this?

A. Yes, I did.

Q. What does that show?

A. It shows the various risks of lung cancer for a non-smoker, for Mr. Buckley who began as a pack-a-day smoker at the upper level of smoking, and stopped, here I have it, sometime in approximately 1992. He stops and then takes up the habit of smoking one

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cigarette a day. So the cigarette smoking risk in this --

MR. LANDMAN: Maybe we should have that marked for identification as Defendant's Exhibit B.

THE COURT: All right. (Defendant's Exhibit B was marked for identification.)

Q. Doctor, maybe you could stand up and show this to the jury.

A. This is the comparison of relative risks, according to effects of cigarette smoking and Mr. Buckley's asbestos exposure. The cigarette smoking on the nonsmoker would be this lower --

Q. That would be if someone was never a smoker.

A. That's correct.

Q. OK.

A. Mr. Buckley started smoking, he stopped, his risk goes down very close to that of a nonsmoker but it begins to rise a bit more over the years from age 40 to age 60. Right now we are looking at a period where he is age 40, roughly 1985. And he might be 39 or 41, but roughly. That I believe is correct.

With respect to an asbestos exposure of three years of this magnitude, it would multiply this curve, which is Mr. Buckley's risk, by an amount proportional to the exposure in that time, and it

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manifests roughly ten years after the exposure began. So it increases his lung cancer risk by about 50 percent.

Q. So you are saying that the risk goes up generally after ten years?

A. Yes. That's when the risk does.

THE COURT: Maybe this would be a good time to recess.

MR. LANDMAN: Fine.

THE COURT: When you leave here, you are directed, except for the transcript of the deposition, you can take that home.

MR. LANDMAN: Yes, I have that right here to give to the doctor.

THE COURT: The reason he wants you to leave it here is that all lawyers are paranoid and if he doesn't leave it here, he will doctor it up.

All right, I will see you tomorrow morning at 10 o'clock. (The jury left the courtroom.)

MR. LANDMAN: May I have the rest of the files?

THE COURT: You are going to take the transcripts home. The rest of the files you leave here.

THE WITNESS: Even my own letters?

THE COURT: Yes. That's right.

THE WITNESS: Well, I am not likely to find the

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answer that I am supposed to look for.

MR. LANDMAN: You can do that right now here.

THE WITNESS: I am not going to spend all night here looking through that, unless you want to -- let me look at it.

MR. LANDMAN: You may be more comfortable at a table and we will spread it out.

* * *

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WILLIAM J. NICHOLSON, resumed.

THE CLERK: You are still under oath, Doctor.

THE WITNESS: Yes.

CROSS-EXAMINATION (continued)

BY MR. LANDMAN:

Q. Good morning, Doctor.

A. Good morning.

Q. I think when we broke you were showing the jurors Defendant's Exhibit B for identification.

A. I thought we were talking about the number of

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cigarettes Mr. Buckley smoked.

Q. No. We had done that earlier, and I am going to ask you about that. We will get to that. Because I am sure you did your homework, right? But I think we were actually on this.

A. OK.

Q. You were showing the jury -- I don't know if you want to stand up again, or whatever you are comfortable doing -- you were explaining to the jury that you charted these with respect to Mr. Buckley, is that right?

A. Yes. As an example of the different possibilities of risk in this case of developing lung cancer. It is only one of the cancers that is involved.

Q. I think it would be a good idea, Doctor, if you could stand up, because I don't think the jury can see it.

This is with respect to this risk of developing lung cancer, is that right?

A. Yes.

Q. The orange-dotted line, what does that show?

A. That is the added risk from his exposure to asbestos during the period of time where he worked in the tunnels from 1985 into 1988.

Q. I take it that shows the risk if he were to continue smoking one pack per day, is that right?

A. This dotted line shows the risk if he had

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continued to smoke a pack a day, beginning at age 19 or thereabouts. And the solid lines here represent the risk from that pack-a-day smoking that ceased in 1991, returned nearly to what would be the risk of a nonsmoker, but he began one cigarette a day recently. Thus, there will be an additional component that will come from that risk and rise as indicated here. This is the asbestos-related risk --

Q. Referring to the orange solid line.

A. -- which would be added to the risk from the cigarette smoking, the risk of lung cancer only. As I mentioned, there are risks from asbestos exposure that affect the lining of the lung and the abdominal cavity, the gastrointestinal tract, and they are much greater in Mr. Buckley's case than his lung cancer risk, because instead of adding a large component, his nonsmoking yields a background risk that is multiplied by asbestos. It is considerably less than the other cancer risks.

Q. Doctor, I am going to show you what has been marked as Defendant's Exhibit C for identification. This is also a chart that you had in your file?

A. It shows the same thing, except it is plotted in different format. Instead of a linear increasing risk, zero, 10, 20, 30, 40, because it does rise rapidly, at times when one plots steeply rising functions, in this case steeply rising risks,

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equal intervals represent a tenfold increase. So this chart goes 1, 10, 100. But the lines are the same as depicted here in this chart. To get to 100 you would have to go way off the chart, and it is difficult to display the lower part of the chart and the upper part in a linear fashion, whereas it is easier to display this here. I thought it was more clear to display it to the jury in this format than in this. But both are available.

Q. Actually, you didn't show the jury either one of these on direct examination. Why not, Doctor?

A. I wasn't asked to.

THE COURT: That is a silly question. He does on direct examination what he is asked to do.

Q. Did you discuss that with Mr. Goetsch beforehand, whether to show charts or not?

A. We didn't discuss whether to show them. I said I had these charts and it is for him to decide what to enter into testimony.

Q. Doctor, just so it is clear to the jury, the 1 here you are talking about is 1 percent, is that correct?

A. No, no, not at all.

Q. What does that refer to?

A. It is the yearly risk of 1 in 100,000.

Q. What is 3?

A. 3 per 100,000.

Q. Per hundred thousand.

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A. Yearly risk. This is based upon smoking risks in the American Cancer Society study of the cancer risk from cigarette smoking.

Q. And so 100 is 100 per 100,000, is that right?

A. Yes.

MR. MOSKOWITZ: I would offer Exhibit C in evidence.

THE COURT: Any objection?

MR. GOETSCH: No objection, your Honor.

THE COURT: Received. (Defendant's Exhibit C was received in evidence.)

A. Per year.

Q. Per hundred thousand per year?

A. Per year.

Q. Doctor, in doing all your calculations, you assume that, number one, there is no threshold for asbestos exposure to cause disease, isn't that right?

A. That's correct, particularly for the cancers.

Q. And you are applying a linear method, isn't that right?

A. Yes.

Q. So, in other words, you assume that the first fiber you get could be as dangerous as the last fiber you get?

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A. There are time factors that play a role in some of the cancers and that is not quite the case. Fiber inhaled yesterday is not going to produce cancer tomorrow.

Q. But under your study in your linear method, the fiber inhaled today could produce damage 30 years from now?

A. That's correct.

Q. And the fact that you got another fiber five years later doesn't increase your risk any more than that one fiber in terms of incremental increase; each fiber you believe causes the damage, if there is no threshhold?

A. That is roughly correct for lung cancer. For mesothelioma, the fiber inhaled five years later, 20 years down the line, has contributed less of a risk than an earlier fiber, because the earlier fiber can cause some damage that other processes in the cancer development would have time to occur. So there is a time factor that plays a role, particularly for the risk of mesothelioma.

With respect to lung cancer, there is a ten-year hiatus between manifestation of risk from exposure, and that is taken into account in what I did. That is why it rises up, beginning on that chart, ten years after the exposure began.

Q. Under your theory, Doctor, a linear method and no threshold problem, if I take one aspirin, it will cause me as much damage as if I take a hundred

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aspirin, is that right, under a linear method?

A. If you take one aspirin versus a hundred aspirins?

Q. Yes.

A. No.

Q. No. Applying the linear method you just applied.

A. You are talking nonsense. That is not what the linear method is.

Q. Doctor, if you take one aspirin and then you take a hundred aspirin, doesn't the hundredth aspirin cause the same amount of damage as the first aspirin under your theory?

A. If you take a hundred aspirin at one time, you are in trouble.

Q. No, that is not the question. If you take one aspirin and the hundredth aspirin, they each cause the same amount of damage, is that right, under your theory?

A. Personally I am not saying that aspirin causes damage. Secondly, aspirin is metabolized from the body, and if you take a second aspirin a day later, it is going to do the same thing as the first aspirin, and the effects will be to relieve pain, basically, over a period of time. The aspirin is removed from the body, and then you do the second day and so on, and similarly you have an equal effect for equal aspirins -- equal ingestion under the

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circumstances.

Q. Doctor, what I want you to assume is that you take one aspirin and you keep taking aspirin the whole day and you take a hundred aspirin?

A. You would be in real trouble.

Q. But under your linear theory, the first aspirin and the hundredth aspirin have exactly the same effect.

A. Not in that circumstance. I am not dealing with aspirin. I am dealing with --

Q. But you are not applying the linear theory there.

A. Because it is an entirely different process.

Q. Doctor, not everyone agrees with you that there is no threshold with respect to asbestos exposure, isn't that right?

A. There are some comments, particularly from industry medical personnel, that would argue against it.

Q. And, Doctor --

A. The majority of the researchers in the field of asbestos do accept a linear nonthreshold theory. It is one that is applied in all regulatory actions by the United States.

MR. MOSKOWITZ: Your Honor, I object as not responsive.

MR. GOETSCH: Let him finish the answer.

THE COURT: He just asked you if some doctors disagree with you. That is all he asked you.

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Q. Doctor, the drinking water, for example, in Baltimore contains asbestos fibers at the level of 28,000 fibers per liter, is that right?

A. I would have no idea.

Q. You would have no idea?

A. At this point.

Q. Well, did you have an idea a month ago?

A. If somebody told me that number, I would probably accept it.

Q. So you don't disagree with that number?

A. It's a remarkably low number, I must say.

Q. 28,000 fibers per liter.

A. Of all sizes, which is usually the way they are measured.

Q. So you don't disagree with that number?

A. I wouldn't disagree with it. I don't have any validation for that number, but that is certainly within the realm of possibility.

Q. It wouldn't surprise you.

A. That's correct.

Q. Doctor, you have done a sampling of asbestos in the ambient air in cities, haven't you?

A. Yes.

Q. And the highest you have found was in Dayton, Ohio, isn't that right?

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A. In one study, that is correct.

Q. And that was due to the fact, in your opinion, that there were four brake manufacturing plants there?

A. I was told that by an industrial person of a company that produced them, and the company was the owner of the plants, the production person.

Q. In fact, in an urban environment there is a lot of traffic exposed to asbestos every day because of the friction in the brakes, isn't that right?

A. That's correct, that is one of the sources in the general ambient air.

Q. And also because 75 percent of buildings in New York have asbestos in them?

A. I would imagine at some location they would, probably more. It is in vinyl tile and in a lot of products from which it is not released.

Q. And because you believe in the no-threshold theory, you actually believe that some people will get as-

bestos disease from the ambient air exposure or background exposure?

A. It's possible, but it is not a fact that would be capable of verification, because of the difficulties of conducting such a study in the other aspects of it.

THE COURT: Let me try to indoctrinate you in my

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theory of my tribal customs. If they ask a question, "Is it possible?" the answer is "Yes, it is possible." Don't go on to lecture about other things.

THE WITNESS: Is it not possible to explain why the answer is yes?

THE COURT: No. That is our tribal custom. I am trying to explain it. The theory is that he is entitled to have you answer his questions, and then your lawyer is entitled to bring out any explanation that you want to. I can give you a lecture about how we came to that theory, but that would bore everybody.

THE WITNESS: I will do my best.

Q. Doctor, you believe that some cases will result in asbestos disease from ambient air exposure, don't you? You believe that? Yes or no.

A. Yes, I do.

Q. Doctor, did you ever sit down and compare the number of hours that Mr. Buckley was exposed to asbestos on the job, as he told you, versus the number of hours that he was exposed to asbestos in the ambient air throughout his lifetime?

A. I could do so. I did not make that numerical estimate because I did not need to.

THE COURT: Don't tell us why. Your lawyer can ask you why. You will drive me to explaining that theory, and then no one will

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forgive you for that.

Q. Doctor, you believe every one of us in the United States has had exposure to asbestos, don't you?

A. Yes.

Q. And based upon your no-threshold theory, all of us have a risk of developing an asbestos-related disease? Yes or no.

A. Yes.

Q. You reached your opinion in this case before you ever went to Grand Central to look at the steam tunnels, isn't that right?

A. I looked at some part of the steam system and other areas in Grand Central much earlier than this case.

There had already been a mess in Grand Central before I met Mr. Buckley.

MR. MOSKOWITZ: I move to strike -- your Honor, may we have a sidebar, please?

THE WITNESS: You asked specifically had I been there, and I answered.

Q. Doctor, you have been told a couple of times by the Court about this. Do you want to come back here and just try this case? Are you here as an expert witness or are you here as advocate?

A. I am here to answer questions honestly.

THE COURT: Then just answer them.

Q. Doctor, you just testified that you have been

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down to those steam tunnels before you rendered your opinion in this report in this case, is that right?

A. I have seen steam pipes at the --

THE COURT: He asked you: Have you been down to those steam pipes?

Q. Yes or no. Before you rendered your opinion in this case, Doctor.

THE COURT: Don't shout at him. That is my privilege.

MR. LANDMAN: All right. Sorry, your Honor.

A. The tunnels, I had not been to the tunnels Mr. Buckley showed me.

Q. Had you been to any steam tunnels at Grand Central Terminal before you rendered your opinion in this case? Yes or no.

A. Could you please define tunnel for me, as you use it with respect to steam pipes that are in place in Grand Central Station?

Q. Did you take an occupational history from Mr. Buckley?

A. Yes.

Q. Did he tell you he worked in the steam tunnels?

A. Yes.

Q. Did he describe where the steam tunnels were located?

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A. He described steam tunnels that he worked in. I have seen steam pipes --

THE COURT: Yes or no, did he describe the steam tunnels that he worked in?

THE WITNESS: That he worked in? Yes.

THE COURT: Next question.

Q. Had you been in those steam tunnels in the lower level of Grand Central Terminal before you rendered your opinion in this case? Yes or no.

A. I am rendering my opinion now --

THE COURT: No, no. Before you first rendered your opinion, you wrote a report giving your opinion. Did that report precede or follow your first visit to the tunnels described by the plaintiff?

THE WITNESS: My report followed -- preceded my visit with Mr. Buckley to his steam tunnels.

THE COURT: That is what we are trying to find out. Thank you.

Q. Eventually you did go to steam tunnels, is that right?

A. Yes.

Q. When you went there, it was hot and humid, is that right?

A. To some degree.

Q. How hot was it?

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A. I didn't take a measurement.

Q. Did you hear hissing when you were down there?

A. I don't remember.

THE COURT: Remember what I told you, that these artificial rules are very artificial and it is hard for someone that is not used to them to follow them.

Q. In formulating your opinion in this case, you relied primarily on the Harries study of dust exposure in the ship repairing industry?

A. That was a study I relied upon. I relied on others as well.

Q. Well, you listed the ones you relied upon. The four studies were: the Balzer's study we talked about yesterday, the Harries study, an article you wrote, a case study on the TLV approach, is that right, and finally the Selikoff study on the mortality experience of insulation workers in the United States. Is that correct?

A. Those were the principal references I gave for the opinion in terms of the exposure that the data from Harries, from Balzer, and data that we had collected ourselves form the basis for estimates of the air concentrations from the work Mr. Buckley performed.

Q. When you did all that and you made your time adjustment, you came up with a 2 percent chance of dying from cancer related to asbestos exposure, is

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that right?

A. That's correct.

Q. Doctor, you relied on the Harries study of insulation workers, is that right?

A. Yes.

Q. That wasn't a study of pipe fitter, was it? Yes or no.

A. It was a study of insulation removal. I can't tell you the name of the trade that was doing it.

Q. Wasn't it a study of people also installing insulation?

A. There was additionally such data. I did not use that.

Q. Doctor, haven't you actually done a study on occupational exposure to insulation dust in the United States?

A. Yes.

Q. In the United States shipyards, isn't that right?

A. The data was collected not in shipyards; in land-based construction to an overwhelming extent.

Q. Doctor, wasn't the name of your article "Direct and Indirect Occupational Exposure to Insulation Dust in the United States Shipyards"?

A. Yes. And I was extending the land-based data to the type of exposure expected aboard ships using the same materials, since this was a shipyard

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conference that was the focus of the discussion.

Q. This article deals with shipyards that I just told you the title?

A. It deals with the type of exposure that would occur in shipyards based upon measurements largely elsewhere.

Q. And, Doctor, we can agree that ships have lots of insulation or did at that time period, isn't that right?

A. Yes.

Q. Now, Doctor, in your study you came up with a table of average dust concentrations in insulation work, didn't you?

A. There are some tables in that that reflect concentrations with work according to different practices and different respiratory protection usage.

Q. Let me show you table 1.

THE COURT: Referring to his study?

MR. LANDMAN: Yes.

Q. And, for the record, this study I just handed you is a study that you wrote, isn't that correct, Doctor?

A. That's correct.

Q. It is the title that I just read a moment ago, isn't that right?

A. Yes.

Q. In the table that I just gave you it says:

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"Average dust concentration in insulation work." Isn't that right?

A. Yes, and it describes various activities.

Q. And it describes the type of work, isn't that right?

A. Yes.

Q. In fact, when it is talking about insulators, this table does not specifically mention anything about removing insulation; it talks about mixing and applying cement and cloth covering to insulation material. Is that right?

A. Yes.

Q. For poor ventilation, let's assume poor ventilation, what is the concentration of fibers?

A. An average for that activity over the full process, the concentration was 4.6 fibers per milliliter.

Q. Doctor, doesn't the Harries study that you relied upon, instead of your own study, have much higher numbers for that activity?

A. They have for all insulation work, which includes the work that I described in the next line in my table, the average is 8.8 fibers per milliliter.

Q. What you found was 5.2 for good ventilation and 11.5 for bad, is that right?

A. Sometimes you are mixing cement and applying that,

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so there is a variety of activity.

Q. Right. But you used the higher numbers instead of your own numbers, didn't you, Doctor?

A. I didn't use the 8.8 of Harries, nor did I use the 4.6 or the 11.5, of my work on application. Those numbers are very similar. You average over these different activities and you are not going to be far different from Harries. I used Harries measurements on removing asbestos insulation by whatever trade removed it. I made measurements in that process because that was applicable to Mr. Buckley's exposure.

Q. Doctor, isn't it true that if you are mixing cement with asbestos, what you are doing is basically ripping

open bags and pouring in dry asbestos fiber containing material?

A. That's correct.

Q. And you know that the insulators used to do that. They all testified that the bags would be covered with dust when they would do that and the dust would fly up just like if any of us tried a little experiment, bought a bag of sand and ripped it open, we would get a cloud of dust coming up?

A. They could put it in a bag or in a bucket. Both cases it releases it. The time when this is high is perhaps for one to two minutes. Thereafter it is down, and that is being measured in this as well

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because that is their whole process.

Q. But that is their job, to mix that and put that insulation on by cementing it around the pipe, isn't that right?

A. That's correct. (continued an next page)

BY MR. LANDMAN:

[400]

Q. And one of the things that shows a high level is cutting materials for later use; isn't that right?

A. The cutting operation is the primary source of dust in the cutting and applying that I listed here. That

cutting does release high concentrations, as does the mixing.

Q. In fact, the insulators that you studied which is what they did, used power saws for cutting the material; isn't that right?

A. In some cases, yes.

Q. Did Mr. Buckley ever use a power saw down in that pipe tunnel, do you know?

A. I don't recall him saying that he did.

Q. A power saw would generate more dust than a knife or regular saw, wouldn't it?

A. It would depend on the amount of ventilation on the power saw.

Q. Assuming the exact same place, using a regular saw or a power saw --

A. A regular saw is not easy to ventilate. It depends on the ventilation. we were devising ventilation devices, so the answer is, it depends. That is my answer to your question.

Q. Doctor, I want you to assume the same ventilation,

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whether you use a hand saw or a power saw.

A. With no ventilation a power saw will release more dust.

Q. Thank you, Doctor. Now, Doctor, the area of concentration that ended up with the highest amount, 67 fibers, was what?

A. It was spraying asbestos material on to turbines or other structures, usually a turbine because of the convoluted shape.

Q. Why was there so much exposure if you did that?

A. Because they were being distributed into the air and the binder was not sufficient to maintain -- keep complete dust control. It was on the -- basically, the dry fiber process, which this was, it depended upon fibers being wetted as they passed through a nozzle. It was a process that was blowing the fibers into the air literally.

Q. They have a -- one of the jobs an insulator does as opposed to a pipefitter is they call them spraymen, right, and they come in and spray this stuff right on these pipes; isn't that right?

A. Not insulators, actually. They don't spray it on the pipes.

Q. It is not a insulator?

A. Wait a minute. The sprayman happens to be a plasterer and he is spraying it on ceilings like this.

Insulators rarely spray asbestos and they would

[402]

probably bring in some outside contractor to do it. It is a process of thermal insulation in this unique --

Q. Harries studied insulation workers on shipyards also, that you relied upon?

A. I don't believe he -- I relied on his study. We are now nitpicking about --

Q. Answer my question, please.

A. I don't know if -- he certainly measured insulation application. That would be presumably applied by insulators.

Q. Thank you. Now, your own chart, you just told this jury that spraying isn't insulation but your own chart is labeled Average Dust Concentrations in Insulation Workers, and underneath that you have various categories. One is mixing and applying cement and cloth covering to insulation material, one is cutting and applying insulation block or section of pipe covering.

You say at least 75 percent of an asbestos worker's time when using asbestos materials is spent on the above jobs. Then you say, cutting materials for later use, and, finally, you say, spraying turbines with asbestos fiber. You have that under insulation workers, am I correct, yes or no?

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A. I have it under insulation work.

Q. So spraying turbines with asbestos fiber is something an insulator does, or is this study wrong?

A. It is something done in insulation work. An insulator is a trade. He may occasionally do that.

Q. There is no further question. That was my question. You answered it. Thank you.

Now, Doctor, in your study which you chose not to use the numbers for, you state, as follows, on page 39, if you want to follow along to see if I read it correctly, "The job study included the blocking of boilers and breachings, covering of pipes, insulating of turbines (blocking, cementing and spraying), cutting with hand saws and power saws and mixing of cement. The average concentrations found for several work practices are listed in table 1," which is the table we just referred to, right, Doctor?

A. Yes.

Q. "Individual counts range from less than .1 fibers to more than 100 fibers, however, when averaged over the time workers spent on a given job using asbestos, the average exposure level was 6 fibers. This average took into account the dustiest jobs in areas with poor ventilation as well as the clean ones in well ventilated areas. If one considers that most asbestos workers spend more than half their time

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working with materials other than asbestos, the long term average asbestos exposure of insulation workers

today would be under 3 fibers." Is that right, did I read it correctly?

A. I don't know. I don't have page 39.

Q. You don't?

A. No. I have page 40 and page 38. I am not disagreeing --

Q. Right here it is. I don't know why the page number got cut off.

A. That is correctly read.

Q. Why didn't you use these numbers instead of the Harries numbers?

A. Because these numbers don't apply to removing asbestos. That is what Mr. Buckley was doing.

Q. What you have done is you have relied on the study, for example, of Dr. Selikoff in preparing this chart, haven't you?

A. I have relied upon the study of Dr. Selikoff where I have information as to what the exposures were for the excess mortality that is seen amongst long term insulation workers.

Q. To get to this 1 in 100,000, 3 in 100,000 you relied on a study of insulation workers?

A. No. I didn't. I relied on the American Cancer study of the population of in the United States.

[405]

Q. For smoking?

A. Yes.

Q. You also relied on the Selikoff study for insulators with respect to the increased risk of asbestos exposure, yes or no?

A. I did to obtain the value of 2 percent. That is not part of that chart. That chart is only a minor component of the total risk of Mr. Buckley.

Q. Wait a second. Are you telling me that if you go and look in the American Cancer publications they will show these indications for asbestos?

A. No, they don't have that.

Q. Where did you get that information?

A. From the comparison -- that came from the large body of data that I have analyzed with respect to exposures and particular cancer risks. It is in a document that you have.

The estimated exposure that I used for that came from Mr. Buckley's statement that he did one hour a day and, largely Harries and Balzer, and to some extent my data on concentrations observed during the removal of asbestos materials.

Q. Doctor, you have listed, among the four things you relied upon, the Selikoff study on the mortality expe-

rience of insulation workers in the United States and Canada; is that correct?

[406]

A. That's correct. I told you that is what was providing the information on what the excess mortality was amongst workers exposed to virtually exclusively the application of insulation. They would, but, very occasionally, remove asbestos. The totality of their exposures is what gave rise to their effects.

I have made estimates of what the average exposure of that was in earlier years and later years. You read some of them here.

Q. Is it your testimony under oath that Exhibit C absolutely does not rely in any way whatsoever to Selikoff's study?

A. The Selikoff's study --

Q. Yes or no. Do you want to hear the question read again?

A. The Selikoff study plays a role in the answer that I gave with respect to where I obtained data on risk.

MR. LANDMAN: Move to strike, and I wonder if the reporter could read the question back to the doctor?

MR. GOETSCH: The answer is not responsive.

THE COURT: Let me hear the question. (Record read)

MR. LANDMAN: I think it is.

THE COURT: What is the answer? Read me the answer. (Record read)

THE COURT: That is not exactly yes or no but the

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answer you get from that is, no. He is not saying he didn't rely on it in any way.

MR. LANDMAN: I will accept that, your Honor.

THE WITNESS: I beg your pardon.

Q. Doctor --

A. I just want to make sure the answer is correct. Did you --

THE COURT: He said, did you rely on it in any way, and then you said it played a part.

THE WITNESS: So the answer is, yes, I did rely on it in a way.

THE COURT: That is what I said.

THE WITNESS: I thought you said no.

THE COURT: He said, did you testify that you did not rely on it, and you said you did rely on it.

Even our spouses could understand that.

BY MR. LANDMAN:

Q. Doctor, one last question with respect to this study that you did of insulation dust in the United States shipyards, occupational exposure. How long did you work on this study?

A. We made measurements of different times over two

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years in various locations where insulation work was being done.

Q. You ended up with, on page 39, with average exposure levels at what, Doctor?

A. In land based work while working with insulation there were six fibers per -- while working with asbestos insulation, there were six fibers per CC.

Q. In 1980, what was the Permissible Exposure Limit in the United States?

A. Two fibers per CC.

Q. When did two fibers start, Doctor?

A. 1976.

Q. Before that, what was the limit?

A. Five fibers per CC.

Q. Before that what was the limit?

A. It was in particles per cubic foot. It varied between -- there were suggested levels but in earlier years it was 5 million particles per cubic foot of all different materials.

Q. In 1971 wasn't the standard 12 fibers per cubic centimeter?

A. That was a suggested standard by a private organization. OSHA -- OSHA established the standard in 1971, an emergency standard of 5 fibers per CC.

Q. An exhibit that plaintiff put in as Exhibit 2051

[409]

states, "The first OSHA standard for permissible exposure level for asbestos was set in 1971 at 12 fibers per cubic centimeter," is incorrect?

A. I am not sure what was incorporated from the ACGIH in a preliminary step by OSHA. It could have been 12 fibers per CC. It may have been something else. I can't speak directly to it.

I can speak to the time that they established their own standard as opposed to utilizing the ACGIH.

Q. You don't know if you agree with what I just read or not?

A. Without looking at the document I would pass on agreement or not.

Q. Do you want me to show it to you? Would that help you?

A. The document, yes.

Q. Showing the doctor Plaintiff's Exhibit 2051 --

MR. GOETSCH: Your Honor, I would like to point out that that is Metro-North's consultant's own document. It was offered as an admission of Metro-North's consultant who educated the plaintiff regarding various matters when they went to the class.

MR. LANDMAN: I don't know what the admission part means but it is a document that was part of the class that Mr. Buckley went to. I

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would agree to that.

MR. GOETSCH: It was simply representing that is what was in the class.

Q. Is that correct or not?

A. It is in there. It is some text of -- I don't know by whom.

Q. That is correct?

A. No. I can't say because I don't have an OSHA -- I don't have the initial early adoption of ACGIH standards by OSHA. The ACGIH was going through a transition period at that time in the 1969-1970 period of time and I don't remember what was permanent and what was temporary and whether OSHA made permanent and temporary.

I do know that in December of 1971 OSHA published their own standard of 5 fibers per milliliter thus it would be higher to that prior to that for the one year that OSHA existed at that time. That is all I can say. The number I can't speak to yes or no at this time.

Q. I thought a couple questions ago I asked you what the number was and you threw out a number and you told us that was the number. Now you are telling us you weren't sure?

A. Exactly what I told you was the case. In December of 1971 OSHA issued an emergency temporary standard for asbestos, one of the first that they set on their own grounds, of five fibers per milliliter.

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It was reaffirmed with the permanent standard in 1972 with five fibers per milliliter.

Q. The question is, what I read to you, do you know, yes or no, is it correct?

A. I cannot state that without seeing --

THE COURT: He said several times he cannot answer that question. Get on to something else.

Q. Doctor, you have the air sampling data from Grand Central and you had that before you rendered your opinion in this case; is that correct? That is out of your file?

A. I don't know when I received this document, this set of data so I can't answer whether I had -- I am very likely to have received it after I wrote the letter in March but I can't be sure.

Q. There is a better copy for you. Does this information change your opinion at all?

A. No, it does not.

Q. It gives air samples for various locations at Grand Central Terminal?

A. Yes.

Q. It gives air samples starting in 1985 that goes through 1988; is that right?

A. It gives data from 1987 through 1988.

Q. Isn't there a page with 1985?

A. Not in what you just gave me.

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Q. Can I see it?

A. Yes.

Q. Doctor, did you also see a page that looked like this, 1985?

A. I saw this sometime.

Q. Okay. All right. Looking at those samples for 1985, 1987, 1988 and in 1986 the standard changed from 2 fibers to .2, is that right?

A. That's correct.

Q. First, are there any readings on all those tests that are 2 fibers?

A. There were none of 2 fibers for the areas sampled.

Q. Now, take another look at it. Were there any, even though part of these were done before the standards went from 2 to .2, and that would be a drop of a factor of 10; isn't that right?

A. That's correct.

Q. Are there any samples that show a .2 or above finding?

A. None for the areas sampled and reported in these sheets.

Q. In fact, Doctor, what is the highest finding that was found?

A. It would appear to be up to .01 in some cases

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upper limits as opposed to actual measurements.

Q. .01 is what compared to .2?

A. It is 20 times lower.

Q. Thank you. None of this would change your opinion in this case, would it?

A. None whatsoever.

Q. Doctor, you have done ambient air sampling, haven't you?

A. Yes.

Q. For what purpose?

A. To look at the issue of what is the general background in the ambient air, what may be the sources of that background.

Q. Doctor, in fact when you did your insulation study you did some ambient air sampling, didn't you? Not you, your people did?

A. We may have done some background in an area where insulation work was being done nearby. We certainly did sampling across a room for insulation work. I don't quite recall the circumstances such as you described that we did ambient air sampling of insulation work so I am qualifying it because of that ambiguity.

Q. You believe that there is an increased risk of cancer with respect not just to asbestos disease but of cancer with respect to any exposure to

[414]

asbestos whatsoever?

A. Yes, I believe there is an increased risk from exposure to asbestos and correspondingly at low exposure levels in the environment at a corresponding level.

Q. You believe that the greater the dose, the greater the risk?

A. Yes.

Q. In fact, Doctor, you believed that over 100 million people in this country have an increased risk of cancer due to asbestos just by fact that they walk around downtown in whatever city they happen to live in?

A. A very tiny increase, yes.

Q. But you do believe they do?

A. Yes.

Q. You don't have any hard data to support this, do you?

A. Other than the linearity of data at higher exposures, stated that a specific experiment to validate effect, to identify effects from low exposures, is not feasible.

Q. Doctor, you agree that crocidolite is the most potent form of asbestos for mesothelioma?

A. Yes.

Q. You think it has anywhere between 2 and 10 times as much risk as chrysotile?

A. Yes.

[415]

Q. Doctor, you had reviewed after you wrote your report what the nature of the asbestos substance was at Grand Central; isn't that right?

A. Yes.

Q. Doctor, in that connection, you didn't find any crocidolite, did you?

A. I looked through data from hundreds of samples. I believe the number was in excess of 300. I recall three samples that did show material that contained a small amount of crocidolite.

Q. Can you show me where that is, what areas in the terminal that would be?

A. one was on the sixth floor, south side offices, 2-inch pipe on wall, file storage room.

Q. A 2-inch pipe?

A. Yes.

Q. Did Mr. Buckley ever tell you he worked on the sixth floor?

A. No.

Q. Tell us where the other two were. If it helps you, one was on the seventh floor.

A. I have that one, seventh floor, east side, sprayed on insulation.

Q. On the walls of a large studio?

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A. Yes.

Q. Did Mr. Buckley ever tell you he worked in that area?

A. No.

Q. Where is the other one?

A. There is a third one in the kit room, south platform E, hot water pipe.

Q. How long was that?

A. I beg your pardon.

Q. How long was the pipe?

A. It is apparently a 4-inch hot water pipe. I don't know whether -- I assume it is a diameter rather than a length.

Q. That was out of some 300 samples that were taken; isn't that right?

A. Something of that order. There may have been one more. I am sorry. There are two more; in the east tunnel under Track 100, perhaps it is the same -- it is perhaps the same tunnel. The same steam pipe, thus when sampling the same application process.

Q. What percent crocidolite was that?

A. Is it kind of obscured but it could be 8 to 10 percent. It might be 3 to 10 percent. I suspect it is 8 to 10 percent.

Q. The rest was something else?

A. Yes.

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Q. How large was that pipe?

A. 16-inch steam pipe.

Q. When you rendered your opinion you did not assume that Mr. Buckley had ever been exposed to crocidolite because that would be complete speculation?

A. That is correct, I did not.

Q. Doctor, you testified, I thought, on direct examination that you reviewed hundreds of samples and only found one, I think you said, or two that didn't contain asbestos-containing material. In fact --

A. In tunnels, I think. I don't remember the question but I thought it was --

Q. Your review of what is down there is based upon this document that I have shown you which is Plaintiff's Exhibit 2403, is that right? I am not asking you the number.

A. Yes.

Q. Is that the document you relied upon to determine which pipes did and did not have asbestos?

A. Yes. That would be the document that I relied upon. There was a some very small percentage of crocidolite used, as we indicated.

Q. Now I am on a different question. What I asked you is you said that virtually every pipe but one or

[418]

two had asbestos on it. But as you look at this document, in fact, there are several more than one or two where the report came back and said, undetected; isn't that right?

A. In the tunnels. The conversation you are referring to refers to work in that area down on the sixth and seventh floor but in the tunnel work.

Q. The tunnel you are referring to is the utility level; isn't that right?

A. Yes, and they begin, the tunnels, descriptions begin, you don't have pages, but GCS0219-1, and thereafter

there is a very large number of pages talking about subway tunnel passageways characteristic of the areas that Mr. Buckley was speaking of.

Within those, I believe we just did find one that had crocidolite and I believe in the next 150 samples there was one that had no asbestos. Yes. On 48th Street steam tunnel, the number is GCS0227-110.

Q. Doctor, there are other areas that Mr. Buckley was working on that did not have asbestos-containing material; is that correct, other areas of the station?

A. He was working elsewhere in the station but it is his tunnel work that we were focusing on and that is the largest contribution to his asbestos risk.

Q. Doctor, what else did Mr. Buckley do during his job other than work in the tunnel?

A. He was doing pipe fitting work elsewhere in the,

[419]

on occasion, in the stations. In the period of time from 1985 to 1987 his work was predominantly in the tunnels. Thereafter, he worked largely elsewhere.

Q. Doctor, when you say that, though, what was his job, what was he doing?

A. I would imagine he would be doing pipefitting work.

Q. You didn't ask him, did you?

A. I imagine I did. I didn't necessarily ask every single detail. I would have asked him if he had done any asbestos removal work and to my recollection he stated he did not, and that is also to my recollection of what was the circumstances in his deposition.

Q. Doctor, you have done a lot of these interviews of people. You agree that there can be errors in the reporting of what someone's exposure is; isn't that right?

A. Yes.

Q. Doctor, basically what you did is you accepted Mr. Buckley's statement to you that he spent an hour to an hour-and-a-half doing this type of work, cutting and applying insulation -- not applying, but cutting away and taking away insulation?

A. Yes. I accepted his statement as to what he did. It was an activity that is memorable and I believed Mr. Buckley.

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Q. You didn't factor into that at all that when Mr. Buckley saw you he had been sent there by a lawyer and already had a lawsuit pending, did?

A. I didn't -- I was aware of that and being aware of it I still accepted Mr. Buckley's statements.

Q. Doctor, how did you get involved in this?

A. I don't recall.

Q. Did Dr. Markowitz call you up and say, look, we got a new case, or did you call him up?

A. I believe it was through Dr. Markowitz that I was contacted but I don't recall.

Q. He called you then?

A. I don't recall.

Q. You have actually interviewed some other clients of Mr. Goetsch's in connection with this, haven't you?

A. I would have spoken with whoever -- I believe there were other individuals with Mr. Buckley at the steam tunnels. I don't recall other interviews at Mount Sinai with other clients of Mr. Goetsch.

Q. Do you know if Dr. Markowitz examined anyone else at Mr. Goetsch's request?

A. I believe he did. I believe that from reading something that I recall on that so I am certainly willing to grant that he may have. I don't recall my being involved with that person.

[421]

Q. Doctor, when you made that statement that sometimes people don't get accurate or give accurate occupational exposure, that was in connection with an epidemiological study that you were involved in where people weren't involved in a lawsuit; isn't that right?

A. It depends on the circumstances.

Q. Do you understand my question?

A. I don't know the answer to your question when -- you -- I don't understand your question. You are making a question.

Q. I will rephrase the question.

The question is, as part of your doing research in epidemiological studies, isn't it true that even if people are not involved in a lawsuit you can't be certain that you are always getting an accurate occupational history with respect to exposure to asbestos, yes or no?

A. On some items that is correct; in others it is quite good.

Q. Asbestos fibers are not the only cause of mesothelioma as far as you are concerned; isn't that right?

A. Other fibers can produce the disease as well.

Q. When you met with Mr. Buckley, had you done your chart and all of this with respect to the risk or did you go back and do that after the fact?

A. I did that in the last few days.

[422]

Q. You wrote your report on March 11 and you had examined or interviewed Mr. Buckley on February 4. I take it that on February 4 you didn't know exactly what his increased risk was, did you?

A. I had a pretty good idea.

Q. Doctor, my question is, did you know it was?

A. 1 to 5 percent?

Q. You wrote 2 percent here, but a 2 percent chance?

A. I estimated it to be that and it would have been done at that time.

Q. Did you tell Mr. Buckley that?

A. I don't remember.

Q. What did you tell Mr. Buckley?

A. I don't remember that conversation. I would certainly tell him that -- I believe I would have told him that he did have a substantial increased risk of cancer.

The exact magnitude, I don't remember conveying to him. I don't remember the conversation, in fact, but I would imagine I would do that.

Q. Based upon this chart, you told him, among other things, you told him he had -- give me the words you told him, a substantial increased risk of cancer?

A. That is what I believe he has.

Q. My question though --

A. I believe I would have told him that.

[423]

Q. You would have told him that?

A. I believe I would have. I don't recall the specific statement.

Q. What did Dr. Markowitz say to him about that?

A. I don't remember.

Q. If asbestos was less than a 10 percent likely factor in developing cancer in one individual, you would not consider that to be a substantial contributing factor, would you; yes or no?

A. I am sorry. I don't understand the question.

Q. I will ask it again. If asbestos was less than a ten percent likely factor in developing cancer in an individual, you would not consider it to be a substantial contributing factor?

A. Quite the contrary. A 10 percent contributing factor to cancer, the overall cancer risk is very substantial.

Q. Back to one of your depositions. In the Adams Armstrong case that you gave on December 27, 1994, two months ago, you were asked these questions and gave these answers, Doctor --

MR. GOETSCH: Can I see a copy?

MR. LANDMAN: There are so many transcripts. I didn't make copies of them all. You can read over my shoulder if you want:

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"Q. What is your use of the term 'substantial'?

"A. It would be in the percent range -- "

MR. GOETSCH: Your Honor, objection. He is starting a line of questioning in the middle.

MR. LANDMAN: I will read more. Fine. Do you want me to start here? I will start here.

Page 73:

"Q. Do you have, do you have an opinion concerning where Fiberglass ranks on the scale of carcinogenicity for mesothelioma in relation to any of the asbestos fibers?

"A. It is way down.

"Q. Significantly less than --

"A. In terms of typical environmental exposures it is -- the contribution to either lung cancer risk or mesothelioma risk is -- in a population, working population -- is much, much lower than were corresponding exposures to any of the asbestos varieties in the past."

Continuing on page 74:

"Q. If we hypothesize that in a given shipyard case an individual bystander was exposed to asbestos and possibly to Fiberglass, do you have an opinion concerning whether Fiberglass was also contributing to the mesothelioma?

[425]

"A. Its contribution in the shipyard setting would be extremely low.

"Q. Would it be in your view a substantial contributing factor?

"A. It would not be substantial in my use of the term 'substantial.'

"Q. I am sorry, Doctor, I didn't hear your answer.

Another lawyer speaks and says, "He said, no." The witness states: "I said no according to my use of the term 'substantial.'

"Q. What is your use of the term 'substantial'?

On page 75:

"A. It would be in the percent range.

"Q. What would that be?

"A. Less than 10, more than 1 and let me leave it uncertain, at that range.

"Q. I am not sure what is substantial, less than 10 or more than 1 or is insubstantial less than 10 or more than 1?

"A. Oh, for it to be a substantial contributor it would have to -- would it not, 10 percent I would term a substantial contributor. That is where I am sure of. Okay. I am fuzzy. I would be fuzzy below that.

[426]

"Q. I just want to understand, if something is less than 1 percent likely to have contributed, that would not be substantial in your view?

"A. In most circumstances that would be correct.

"Q. Okay. And somewhere between 1 and 10 you would say was substantial but you are not sure where?

"A. That's correct.

"Q. Okay. 10 percent would be"--

continuing on page 76, "substantial?"

"A. Yes."

Was that your testimony two months ago?

A. Apparently it was in reference to what we were talking about as a legal issue as to --

Q. There is no question. You answered the question. That was your testimony. Doctor, you are not qualified to testify about how asbestos causes mesothelioma, lung cancer or asbestosis, are you?

A. I am not a biologist nor an oncologist.

Q. My question is, you are not qualified to do so, yes or no?

A. It begins with an exposure.

Q. You can't answer that question yes or no?

A. On the full mechanism I don't think anybody can

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answer the question.

Q. Page 76, same deposition, the first question:

"Q. Do you have an opinion to a reasonable degree of medical certainty as to how it is that asbestos causes mesothelioma?

"A. on the biological process I have no opinion.

"Q. Okay.

"A. I am not a -- I don't do that work.

"Q. Is the same thing true with the diseases lung cancer and asbestosis?

"A. On the molecular process it is the same. I mean, people are working on that now and I know some of the results but I am not -- I am not qualified to discuss it in this setting.

Q. Was that your answer two months ago?

A. It is. It was two months ago. It is today.

Q. You, Doctor, assume, based upon a theoretical model based on data that has been accumulated from high dose exposures, that there will be an increased incidence of asbestos-related diseases at all points of

significant -- what you would call significant exposure in the occupational setting, yes or no?

A. Yes, I do.

Q. Doctor, do you agree with me that the typical

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working lifetime is about 40 years; isn't that right?

A. 40, 45 years.

Q. The insulation workers that you were studying were -- had been, on the average, working in that field about 25 years; isn't that right?

A. Selikoff said he spanned all age groups and 25 years is a reasonable average for the group, I believe.

Q. Doctor, there is no data available that actually reports asbestos-related cancers beyond those expected in the normal environment without asbestos exposure at exposures to asbestos over a 40-year-period below .25 fibers per milliliter?

A. I would like to look at the EPA document to review the various studies to recall the possibilities before answering. At the moment I can't immediately think of such a study.

Q. Back to your deposition two months ago.

Page 88:

"Q. Would you agree that there are no data currently available that currently reports the incidence of asbestos-related cancers beyond that expected at exposures below .25 fibers per milliliter?"

A. You said 2?

Q. .025. I will ask that question. Would you agree

[429]

now there is no such data? I will give you the question again.

A. Give me the question again.

Q. You would agree that that is no data currently available that actually reports the incidence of asbestos-related cancers beyond that expected at exposures below .025 fibers per milliliter?

A. I completely agree with that.

Q. The ambient air tests at Grand Central don't show any numbers above that?

A. For those areas sampled, that is correct. The locker room didn't have it and so forth.

Q. Doctor, the measurements of exposure in your own studies have uncertainty in them, don't they?

A. Indeed.

Q. You do the best with the data that you have?

A. Yes.

Q. This linear dose response model that you use was earlier used with the radiation research, isn't that right?

A. It has been.

Q. Doctor, you know, we had touched on this but I

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went over your CV yesterday and on this issue of the radiation exposure and the soldiers, I thought you suggested that you were not really that involved, but when I read your resume it says that from 1952 to 1955 you were a First Lieutenant in the Air Force and that you actually are the person who developed instruments for studying the effects of ionizing radiation, is that true?

A. I did that work, yes.

Q. And studies concerned the soldiers that were being exposed at the test site?

A. They were concerned with Air Force personnel and airplanes. You were talking about didn't they match -- march soldiers up near the blast site? At some point I know they did. I don't remember them doing it in the particular time you were asking me. That is the simple statement.

I was at one test and I did make measurements using that instrumentation. They were referring to an

entirely different activity. I tried to make that very clear.

Q. Doctor, just so it is also very clear, you have never done any followup with that, yes or no?

A. I have not done so personally. I was out of the Air Force in 1955 shortly after that test series.

Q. You are in the field of environmental disease?

A. I am doing measurements now in terms of radiation effects.

Q. But not on those soldiers. The radiation effects you are doing now are with respect to people who claim occupational exposure from medical x-rays and things like that; isn't that right?

A. No.

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Q. Such as medical technicians who take x-rays?

A. No.

Q. What is the research you are doing?

A. It is the effect of exposure to radon in the home setting; radon released from minerals in the ground that builds up in the house and is inhaled by people.

Q. Is ionizing radiation a radon, does that come from radon?

A. Some does. Radon is a radioactive substance. It releases an ionizing particle.

Q. In that connection, how many people in this country have been exposed to radon?

A. I would imagine everyone in this country has been.

Q. You have found that radon also has no threshold; isn't that right, for disease?

A. That would be my view. I can say that people living in New Jersey are affected at the concentrations in that state where the study I am conducting is taking place.

Q. So it is your opinion that they have a higher risk of cancer; isn't that right?

A. Yes.

Q. From the radon exposure?

A. Yes.

Q. About how many people in the United States have a

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higher risk of cancer from radon exposure, Doctor?

A. They all have to.

Q. All 200 million, all of us?

A. To a greater or lesser degree. It can be quantitated to a reasonable extent although there are uncertainties in the estimates.

Q. You believe, Doctor, there is a significant risk from asbestos exposure at below even one-tenth of a fiber per milliliter; isn't that right?

A. Yes.

Q. The exposure level, permissible exposure level, it 1985, 1986 was actually 2.0 fibers; isn't that right?

A. In 1985 it was 2.0. In 1986 it went to 0.2.

Q. It changed in the middle of the year?

A. Yes.

Q. Your exposure where there is a "significant risk" is actually what percent of what the Permissible Exposure Limit was in 1985 and 1986 or how many times smaller?

A. What I would call a significant risk?

Q. No. You have already said that you call one-tenth of a fiber per milliliter a significant risk.

A. Indeed.

Q. My question is, compare that to the 2.0 Permissible Exposure Limit that OSHA had in 1985 and part of 1986.

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A. That would be a working concentration 20 times higher.

Q. There is difference in the way radiation causes cancer as opposed to asbestos, isn't there?

A. Yes.

Q. Because radiation is an ionizing particle?

A. Yes.

Q. Which means you can get the cancer a lot sooner?

A. There are delays in the progression of cancer from ionizing radiation as well as from asbestos. I can't -- I don't know the exact time course of radiation so the answer may be yes, may be no. I am not sure. Certainly risks exist decades after exposure and occur decades after exposure as they do with asbestos.

Q. Do you agree, Doctor, that asbestosis is necessary before you can relate a lung cancer to asbestos exposure, underlying asbestos?

A. I believe that one can develop a lung cancer from asbestos exposure without having manifestations of asbestosis characteristic of x-ray readings of 1/1 or even 1/9. You have to define the term "asbestosis."

Q. 1/1 reading on a chest x-ray?

A. One can have -- I certainly believe that one can develop a lung cancer, asbestos-related lung cancer, without such a reading occurring.

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Q. But you know of doctors Hughes and Weil, don't you, know of them?

A. Yes.

Q. They are leading researchers in the field of asbestos medicine?

A. They conduct research in that area.

Q. They did a study published in the British Journal of Industrial Medicine?

A. Yes.

Q. In that they concluded that asbestosis had to be found before you could conclude that the lung cancer was due to asbestos exposure, and you just disagree with that, I take it?

A. There is differences in the two questions. One has other -- can I --

Q. My question is, do you agree with that statement or not, yes or no?

A. I don't know without looking at data. I do know that one has studies showing --

Q. Isn't it true that they looked at x-ray data and that they didn't find any -- where they did not find evidence of asbestosis, they found no statistically significant increase in lung cancer?

A. They may have done so. Others have found the opposite.

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Q. If you don't have asbestosis, that indicates that your exposure to asbestos was low?

A. Yes, but I am just stating that other studies have shown the opposite.

Q. The opposite they --

A. No. That there was excess lung cancer in people without asbestosis, and my statement that that is the case prior to your reading the results of Hughes and Weil. Notwithstanding, my answer stands.

Q. It is true, isn't it, Doctor, that if you have asbestosis, it is more likely than not that your exposure was higher than someone without asbestosis?

A. On a probablistic basis, yes.

Q. The risk of lung cancer goes down once you stop your asbestos exposure?

A. No. The relative risk does not go down for lung cancer.

Q. Page 128, from the same deposition two months ago:

"Q. I am asking you, Doctor, whether or not that was not a theory with some currency in the '70s" -- let me start sooner. Line 7:

"Q. Doctor, am I correct that at least in the 1970s

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there was a theory that if one reduced but did not eliminate asbestos exposure in occupational settings and elsewhere that you might eliminate any increase in risk attributable to those exposures by reducing the latency period for the disease to a point where it was beyond the normal lifetime of the people exposed?

"A. Reducing the latency period?

"Q. Excuse me, extending the latency period. Excuse me, Doctor.

"A. How do you do that?

Q. I am asking you, Doctor, whether or not that was not a theory with some currency in the '70s, in fact, discussed in some of Mount Sinai's own writings with respect to research that was undertaken?

"A. Firstly --

"Q. Can you answer yes or no, Doctor?

"A. You are -- you had a very complicated question that was erroneous in its assumptions in that there would be a reduction in the risk following cessation of asbestos exposure for, in this case, lung cancer, I

believe is what you would be speaking of." Was that your answer, Doctor?

A. I guess it was and that is exactly what I said just now. You don't reduce the risk -- the magnitude of the relative risk is how it is expressed with cessation of exposure. That is what I am saying there.

Q. You have talked a lot about Dr. Selikoff. You

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are aware of his report in 1990, The Third Wave of Asbestos Disease Exposure to Asbestos in the Workplace."

A. Yes.

Q. Doctor, didn't Dr. Selikoff say, "We, therefore, calculated expected and observed deaths for each of the three periods of time separately taking into account age specific deaths rates for each of the three periods. The data is graphically displayed in figures 8 through 15. In summary, they demonstrate that even after 15, 20, 25 years of work exposure reduction of exposure resulted in decreased rates of death from lung cancer, peritoneal mesothelioma and asbestosis. Such an advantage, however, was not seen among those who had already gone 40, 45, 50 years from onset of their work. Apparently, after this amount of exposure and passage of time, the risk is irreversible." Do you agree with that statement, yes or no?

A. I agree with the statement that if you reduce exposure that group with the reduced exposure will have less of

a risk than a group that continues that exposure because it has lesser exposure.

Q. Exactly, but yesterday you kept saying to this

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jury that your risk keeps going up after you have been exposed, but in fact the only thing that is happening is, the latency period is running, your risk isn't going up. Yes, a year after you have been exposed your risk is lower than 30 years but it is not because it is dangerous to stop your exposure.

A. It is beneficial to stop the exposure. But the lung cancer risk is one that is described by a multiplier on the underlying risks of lung cancer. That is going to rise. The multiplier stays the same, but the extra lung cancers that come from asbestos in fact increase with time, even though there is no greater exposure.

MR. GOETSCH: Move to strike as not responsive.

Q. Doctor, you don't remember the particular work you actually did with respect to the insulation work on the ships, do you?

A. we were in one shipyard we visited. But one shipyard allowed us to --

Q. Not "we." You. You. Dr. Nicholson, do you remember the work you did?

A. I visited a lot of ships in a lot of shipyards.

Q. But you don't remember specifically what you did, do you, in terms of that survey of insulation workers. Do you? Yes or no.

A. Yes, I remember what we did.

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THE COURT: Not what "we" did. Only judges and kings can say "we." I get offended when you say "we." You.

A. I remember what I did.

Q. Reading from your deposition two months ago, on page 153:

"Q. And with respect to those two yards, can you tell me whether you have any specific recollection of going aboard a ship and observing any asbestos exposure practices on board ships at either of those yards. Long Beach or Pascagoula." Am I pronouncing it correctly?

A. Pascagoula, yes.

Q. Pascagoula.

"A. I believe so at Pascagoula.

"Q. But you can't make the same statement with respect to Long Beach; is that correct?

"A. At the moment I don't have an image of a Long Beach shipyard in my mind, that's true."

A. Oh, I am mistaken. I have a minimum knowledge of the Long Beach shipyard. I don't recall going aboard a ship at Long Beach. To that extent I may have disanswered.

Q. It says -- let me read there.

A. It is totally inadvertent, if that is the case.

Q. Let me just finish. I think the answer says: "At the moment I don't have an image of Long Beach shipyard in my mind, that's true."

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A. It may have been --

Q. Continuing on page 154.

"Q. With respect to Pascagoula, what if anything do you recall about any ship that you may have gone aboard there and anything that was occurring on the ship?

"A. As to a specific work practice?

"Q. Any work practices.

"A. We would have looked at some insulation. I don't remember the particular jobs or those details.

"Q. Do you remember the type of work that --

"A. Insulation work.

"Q. In what circumstances?

"A. In the engine room.

"Q. You are sure you were in the engine room on the ship at Pascagoula?

"A. I believe so, but I'm not sure.

"Q. You're not sure. Do you know if work was going on in the engine room on the ship in Pascagoula if you were in it?

"A. It's my recollection it was; that's why we went.

"Q. Do you remember what kind of work was being done in the engine room?"

Continued on page 155.

"A. No.

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"Q. Now, Doctor, we are talking about a single ship or more than one ship in Pascagoula?

"A. I don't remember.

"Q. OK. Do you have any recollections with respect to any other shipyards or ships that you were on where you recall anything specifically about observing any work practices related to the application of asbestos? Other

than what you have already referred to with respect to Pascagoula.

"A. I know I went to the Plymouth shipyard in England with Peter Harries. I don't remember the details of any visit that we might have had within the yard again.

"Q. Do you have any other recollections?

"A. Not 25 years later.

"Q. My question was not limited to 25 years ago. It was at any point in time. Do you have any other recollections?

"A. We were looking at shipyards 25 years ago.

"Q. Have you looked at shipyards since that period, 1969 to 1972? You personally.

"A. I don't believe so."

Q. Continuing on page 156.

"Q Now, you mentioned a few minutes ago making measurements. Did I understand you to be referring to measurements that were made by you at shipyards?

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"A. I didn't make specific measurements. I know Reitze did.

"Q. Did you ever make any measurements yourself at shipyards?

"A. I said no.

"Q. Did you supervise the collection of any exposure measurements at any shipyards ever?

"A. Again, I don't remember what I supervised or not. I watched a lot of what Reitze did. I participated in much of the sampling that he did. And it was in many installations. When you look at a lot of installations, the recollection of a specific instance 25 years later is vague.

"Q. Tell me what you recall of what you observed of any work by Reitze in measuring asbestos exposure in any shipyards?

"A. I don't recall.

"Q. You have no recollection of any of that?

"A. Of him -- I don't recall being there when he was doing measurements. I do have a strong recollection of his" -- his -- "having made such measurements.

"Q. With respect to the measurement made by -- is it Mr. or Dr. Reitze?

"A. Mr. Reitze.

"Q. Mr. Reitze. -- did you have any involvement

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in designing the sampling that he did undertake in any shipyards?

"A. You wouldn't design a sampling strategy to take counts here, counts there, counts there."

THE COURT: What question are you going to ask?

MR. LANDMAN: The witness claimed that he had a recollection of doing this work himself, and this obviously --

THE COURT: This shipyard, what does this have to do with this case?

MR. LANDMAN: Well, because it is the basis, it is the studies of the shipyards, your Honor, the insulators, that leads to the opinions he has in this case.

THE WITNESS: No, it is not. The shipyards, as I stated all along, were visited. The data that we collected and the data that was presented were collected in largely land-based centers. I believe there were measurements made at Pascagoula. That is the only shipyard where I have that recollection.

MR. LANDMAN: Well, your Honor --

THE WITNESS: So the shipyard --

MR. LANDMAN: One of the sources he relied upon is with respect to dust concentrations in shipyard insulators. I will move on now.

Q. Doctor, you think that the most overwhelming

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activity going on in a shipyard with respect to insulators was either the application or the removal of pipe covering, is that true?

A. It's largely the application in most circumstances in recent years.

Q. Did Mr. Buckley ever apply insulation containing asbestos material? Ever, from 1985 to 1988?

A. I don't believe he did. He may have done a little bit, but that was not his major activity.

Q. And he never did any cement mixing with asbestos containing materials such as insulators, did he?

A. That's my belief.

Q. Asbestos dust for insulators was less in asbestos dust in the textile factories, isn't that right?

A. On average, in insulation application, compared to textile factories in the '40s and '50s, yes. It depends upon the time of the textile factories because they could control and did control in recent years to levels that were lower than the averages we have been talking about for standard insulation work.

Q. As far as the insulators you studied, you had no knowledge of how long the insulators you studied had performed a certain activity that was sampled, or what percent of the workday was spent doing that kind of work, or what was the area actually being sampled, isn't that right, Doctor?

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A. We made estimates of the time that they spent doing different activities, both by observation and questionnaires. We would sample a job over the course of the job, or we would sample a peak, depending upon exposure, for example, during the mixing of asbestos. So the times of sampling were recorded.

Q. On page 202 of your deposition of two months ago.

"Q. Now, Doctor, would I be correct in assuming that you have no knowledge of how long the insulators studied here performed the activity that was sampled, that is, what percentage of their workday was spent doing the kind of work that was sampled here?

"A. I stated I did not have that direct information.

"Q. And I take it that from that absence of information you are not able to glean from this data anything about the time weighted average exposure of the insulators whose exposures were reported here?

"A. Not from that particular data. But we have done so from the collection of a lot of other data." Was that your answer?

A. Apparently that is what is stated. Would you read the preface to that, so people can understand what you might be talking about, including me, or what I might be talking about in that case?

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Q. Do you remember what you were talking about two months ago when you gave this deposition?

A. Not in that deposition for the length of it.

Q. We will move on.

A. No, you are leaving it totally unclear.

Q. Counsel can ask you about that on redirect. It is a tribal custom and we need to get done.

A. You could be referring at that point to somebody else's data. It could be anything. So the question without basis, that you asked without the basis, is totally irrelevant.

How many subjects, Doctor, in the workplace does OSHA regulate?

A. I don't know, but a lot.

Q. Hundreds?

A. Yes.

Q. And each of those you believe causes some increased risk of cancer, isn't that right?

A. Not necessarily.

Q. Why does OSHA regulate that?

A. Because they could be producing other disease.

Q. I am sorry, they each produce increased risk of disease.

THE COURT: Of some disease.

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Q. Any disease.

A. Largely so. I am not going to make an absolute statement, but that is the point of their regulations.

Q. Did you tell Mr. Buckley to not smoke when you saw him in February 1994?

A. He wasn't smoking at that point, to my recollection. He stopped smoking in 1991, and I probably, I would hope, being apprised of that, encouraged him to keep it up.

Q. You encouraged him?

A. I would think I did. I can't state for certain I did, but I would imagine I would.

Q. Doctor, when did you find out that he was smoking one cigarette a day?

A. Just recently.

Q. From whom?

A. I believe it was from Mr. Goetsch.

Q. Was it yesterday you found that out?

A. No.

Q. Tell us when.

A. It had to be at least a week ago. I spoke with Mr. Goetsch sometime, I believe, sometime last week, but the time scale without my calendar is uncertain. But my recollection is that it was sometime more than a week ago or approximately a week ago.

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Q. Was that by telephone or did you have a meeting?

A. We met.

Q. At your office?

A. Yes.

Q. How many hours so far, through now, have you spent on this case, meetings, interviews, research, writing reports?

A. I remember, through July, various activities, something of the order of 20 hours.

Q. How many?

A. 20 hours as of sometime --

Q. In July.

A. July, September, thereabouts.

Q. Was that before or after you went to Grand Central Terminal?

A. It included going to Grand Central Terminal.

Q. And how many hours have you spent since then?

A. I haven't totaled it up. I would imagine, with the preparation for this particular trial, of the order of ten.

Q. You met with Mr. Goetsch for how long?

A. Less than an hour, about one hour.

Q. And then you reviewed your material?

A. Yes.

Q. So that is about ten hours?

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A. And producing graphs and looking at various documents that have been produced.

Q. And yesterday how many hours are you charging to this case?

A. I was in the trial from 2 to 4:30: two and a half hours.

Q. You don't charge for the time from when you leave your office?

A. No, I don't. I might charge for wasted time in travel. I don't know about here doing so, because I only came down in the subway and that is less than half an hour. I may or may not. But I charged --

THE COURT: Once you get in the subway, God knows how long it will take.

THE WITNESS: I know. The time that I do something, or else am unable to do something else.

Q. You still charge $250 an hour, is that right?

A. For trial deposition and cases that arose prior to this year. I have raised the -- I have just raised rates for new activities to $275 an hour.

Q. You were charging $250 an hour back in 1985 and 1986 for depositions, weren't you?

A. I don't recall. At some times I was charging at -- at some times I was charging $200. I don't remember the time scale back in the past.

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Q How many depositions have you given, Doctor, since you got to Mount Sinai?

A. 20 to 30 perhaps, probably closer to 30. It would be closer to 30.

Q. How many times have you testified in court?

A. I looked at a list I had that went from -- that covered the last five years, and it was virtually the totality of the personal injury cases and that came to 15. I had been involved in trials involving governmental activities relating to --

Q No, I am just limiting it to personal injury cases.

A. OK.

Q. So the last --

A. Ballpark, 15.

Q. Doctor, you agree that between a half and a third of all cigarette smokers will die because of their smoking?

A. Not quite. Half to a third of the heavy smokers. A cigarette-a-day person would not. It depends on your population smoking habits at any one point of time, but it is certainly possible with a fairly heavy smoking load. And most of that is cardiovascular deaths, not cancer deaths.

Q. Death is death, right?

A. Of course. I am not arguing at all. I am just

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making it clear that there is a lot more risk to cigarette smoking than cancer.

Q. Doctor, I am not taking this paper out of the air. It is in the paper by Richard Doll and Richard Peto, "Mortality in relation to smoking: twenty years' observations on male British doctors," isn't it?

A. It could be. And you again are looking at a different period of time, and a different degree of smoking and different types of cigarettes. So I am not disagreeing with that as being possible. I am only saying it may be changed at this time.

Q. What they state is these ratios suggest between a half and third of all cigarette smokers will die because of their smoking if the excess death rates are actually caused by smoking. They say that, right?

A. I imagine so. I accept your reading of it.

Q. And in fact you accept the article because, Doctor, this is your file, right?

A. Yes.

Q. And you have that article in your file, right?

A. Yes, and I referred to that article. I just don't recall every word of it.

Q. Doctor, you mentioned something that I think is very interesting about smoking: that it depends on the type of cigarettes that are being used and filter and, for example, it depends whether they are a hundred milliliters long or whether they are king size or regular, right?

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A. To some extent, yes.

Q. And in fact cigarette companies, some, used to put asbestos in the filters, didn't they?

A. Yes.

Q. Doctor, normally when you do these epidemiological studies where you people go out and do these interviews and everything, they ask about what kind of cigarettes you smoke, they ask whether they had filters, they ask whether they were king sized or 100 milliliter cigarettes, don't they?

A. Probably more often than not. I won't say they do that all the time.

Q. But they do that, you so testified?

A. I would hope so.

Q. Doctor, you don't have any of that information from Mr. Buckley, do you?

A. I don't recall it at this time. With respect to his previous smoking, no.

Q. You did go back and you did find the reference that Mr. Buckley at times would smoke less than a pack a week, is that right?

A. That's what he stated.

Q. And the source of that was solely Mr. Buckley, is that right?

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A. Yes.

Q. Doctor, you are aware of studies that have shown that people underreport their smoking?

A. That can occur, yes.

Q. But you just assumed that Mr. Buckley's history was accurate, is that right?

A. It certainly was sufficiently accurate for any comparison of lung cancer risk with other risks that would involve the asbestos component of his risk.

Q. Doctor, in addition to cigarette filters having asbestos in them, they put asbestos in beer filters, didn't they?

A. I believe that is correct.

Q. And they also put them in hair dryers?

A. In the insulation of hair dryers. It was an asbestos cardboard.

Q. And that is one of the things you actually studied, isn't that right?

A. Yes. Some release of fibers occurred in some circumstances.

Q. Doctor, we talked a little bit about Dr. Balzer yesterday. You told us who he was. You in fact have in this file on the Buckley case a whole folder of Balzer Cooper articles, isn't that right? I think it is four, is that right?

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A. Yes. I pulled, just to take with me, various insulation-related articles in my insulation file.

Q. So you --

A. I certainly read Mr. Balzer's' articles.

Q. Doctor, you mention a lot about the Harrie study that you relied on, isn't that right?

A. It had the most data relevant to removal of asbestos.

Q. But didn't it relate, Doctor, to dust concentrations during removal of sprayed Chrysolite asbestos?

A. I did not utilize that information. That is another story in itself. I only referred in this case to -- I believe it is the second page-long table of approximately 30 to 40 fiber counts made during removal of thermal insulation. He also in another article refers to roughly 150 such counts.

Q. Do you know whether the pipe lagging that you referred to, the study of that, whether that actually contained crocidolite? You don't know the content from this article, do you?

A. It may have contained very much, and it wouldn't

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matter too much because we are looking at air concentrations, and the amount at least would be similar. But crocidolite rarely is used in insulation because of the asbestos varieties. It is the least resistant to heat.

Q. In fact they find a fair amount of crocidolite in table 1, is that right?

A. Well, the sprayed stuff was crocidolite, sprayed on the decking, pure crocidolite.

Q. The insulation workers wouldn't have been exposed to?

A. Yes, in Britain they could have been exposed to, and in some cases in the United States, if they worked on British ships.

Q. But we didn't use much crocidolite in this country?

A. In thermal insulation, that's correct, or sprayed insulation.

Q. Doctor, actually, in the article that you have written on the TLV approach, which is one of the articles, one of the four things you are relying on for your opinion in this case, you actually cite Dr. Balzer's studies a couple of times, don't you?

A. Yes.

Q. Doctor, haven't you recently written an article on Chrysotile?

A. Yes.

Q. Doctor, in that, you again cite Dr. Balzer as one

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of your sources, isn't that right?

A. I would cite him for some exposure measurements in insulation work, which -- oh, I know, I am sorry, yes. In the article on Chrysolite --

Q. I want to know --

A. Wait a minute.

Q. Quickly: Did you cite him?

A. Yes, I did, because he had data on time of exposure.

Q. So you think he is a pretty reliable source for information? I mean, you have cited him in your articles?

A. I think his articles are a reasonable source for information. They certainly should be considered. One has to, in some cases, take into account the circumstances of his measurements being in California where you don't have the close structures that you have in the Northeast as much.

Q. The Harrie study again, the majority of workers had worked with or near asbestos for more than 20 years, isn't that the result?

A. I don't recall the data on his clinical survey. I mean, he published data on clinical findings of workers. I

was only referring to exposure measurements that were reported. I am sorry, I just have no recollection of the work histories of the people he may have discussed.

Q. Reading from Harrie's article on "The Radio-

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logical Survey of Men Exposed to Asbestos in Naval Dock Yards," at page 278: "The high rates at Devonport" -- that is a shipyard that you were studying?

A. Yes.

Q. "may be the result of the type of refitting work involving the larger aircraft carriers at that yard, while the low rates at Rosyth are probably related to the small number of extensive refitting of surface ships undertaken there in the last 25 years." Would you agree with that?

A. That sounds like a very reasonable statement, the removal of areas of sprayed crocidolite was remarkable, which is what they were doing there.

Q. Also in this study it states, at page 278: "The Devonport study showed that there was a long interval between first exposure to asbestos and the radiographic asbestos abnormalities, and time similar results were seen in the other three yards. In 54, or 78 percent of the affected men, more than 25 years had elapsed since their first exposure to asbestos and 67 percent had worked with or near asbestos for 25 years or more. Their overall prevalence of asbestos

abnormalities for men with more than 25 years since first exposure to asbestos was 8.1 percent. The rate was higher in Devonport but similar in the other three yards."

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So you agree with me that they were studying people with more than 25 years of exposure, on the average?

A. Well, he is saying that those that developed abnormalities particularly put in more years.

Q. 25.

A. 25. It can occur earlier in some, but at the concentrations we are talking about, typically more than 20 years will elapse before abnormalities develop.

Q. But, Doctor, what I read to you also said that the people they were studying had more than 25 years of exposure. Do you agree or not?

A. It was not clear from your reading that all people were, but let's say that most were.

Q. This is a study you relied on. You only relied on four studies.

A. I didn't --

Q. It is in your file, right?

A. It is in my file, but I referred in no way to that study of radiological abnormalities to do anything in this

case. I haven't looked at that particular article for ages.

Q. Why did you bring it?

A. It happened to be in a file listed Harries, and I brought Harries' paper there, keeping the whole file. It was easier to bring all four or five articles than separate it and probably have it separated for some time thereafter.

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Q. But the study that you are referring to was a study of this same shipyard, isn't that right?

A. That's correct.

Q. And what it says is that 67 percent of the men had worked with or near asbestos for 25 years or more.

A. OK. I will agree with that. 30 percent worked for less. But that has no bearing on anything that I did in this case.

Q. You also have Dr. Balzer's study, "Asbestosis in the Manufacture of Insulating Materials," by -- I am sorry not Dr. Balzer; his colleagues, Dr.Cooper and Dr. Miedema. And in that the conclusion is: "Studies of workers involved in the application of insulation have been consistent in showing a high rate of occurrence for asbestosis and persons exposed to insulating materials containing chrysotile, amosite or crocidolite. Values for the average dust concentration that are associated with the production of disease are not reliable because of changing products in alterations

between brief periods of high exposure in sawing, mixing mud, tear out, and periods of relatively low exposure. These uncertainties make comparisons among different types of asbestos end products impossible. Studies of workers involved in the manufacture of insulation materials are more likely to reveal significant relationships between dose and response, but there is no published information which permits the evaluation of relative hazards in terms of asbestosis. Consideration should be given in both epidemiological studies and studies in animals to the pathogenic contribution of the materials which accompany asbestos in insulation products, such as magnesium carbonate, calcium silicate, and diatomaceous earth" --

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A. Diatomaceous earth.

Q. Thank you. -- "which may modify the fibrotic response." Do you agree with that?

A. Not completely. I think one can make comparisons between insulator studies and other studies with the information that is available. There are uncertainties involved. I have done so with respect to malignancy, and it is reported in the document to the EPA.

With respect to radiological changes, which you are referring to, I don't know that it is being done. The comparison of establishing dose responses for radiological abnormalities is much more difficult than for cancer, because of the ambiguities of different readers and the ambiguity of the effect.

Q. Doctor, you cited this study in some other articles you published, haven't you?

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A. Not the one -- I may have cited Balzer Miedema. I don't remember where. I didn't consider that study, because it again was radiological changes in this particular case.

Q. Doctor, you agree that the earlier studies may have to be modified because the asbestos composition in insulating products has changed, even those that contain asbestos material, in that insulation blocks may have twice the asbestos content in the early years than in the more recent years up until asbestos wasn't used any more?

A. That is my understanding. In trying to make these comparisons, I utilized such information.

Q. How have you done that?

A. I assigned higher exposure, in looking at those response relationships, for insulators, would assign a higher exposure in the '60s and '50s than in the -- well, in the '50s and '40s than in the late '60s and certainly in the '70s. I someplace have a graph of that. In fact, it is in the material you have. Not a graph; a tape.

Q. You haven't shown us that yet. We haven't gotten to that.

A. No.

Q. Doctor, you have stated before, haven't you, that from 1940 to 1979, 27,500,000 individuals had potential asbestos exposure at work. Of these, 18,800 had exposure in excess of that equivalent to two months employment in primary manufacturing or as an insulator. 21 million of the 27,500,000 and 14,100,000 of the 18,800 are estimated to have been alive on January 1, 1980.

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Then you conclude: It is further estimated that approximately 8,200 asbestos-related cancer deaths are now occurring annually, and you say this will rise to about 9,700 by the year 2000. Is that right?

A. Yes. That is a paper I wrote in 1982.

Q. Do you still agree with that?

A. Largely so. The number might be a little bit less, but it is ambiguous because of the uncertainties of the mesothelioma registry the United States maintains. There could be many miscast cases there.

Q. And you are saying there will be asbestos-related cases of 9,700 by the year 2000. How many cancer-related deaths in general will there be in the year 2000?

A. That is cancer deaths.

Q. From smoking --

A. I am sorry.

Q. -- from smoking from radon, from benzene, from chemicals, from chloride, from solvents, the aging process and everything.

A. Yes, I know. I am sorry, I don't have that number on hand. I think on males, which is what we are talking about here, it might be a couple of hundred thousand.

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Q. A couple of hundred thousand people will die every year of cancer?

A. I believe that -- I think a million people die each year, and roughly 20 percent of the deaths are of cancer, so we are looking at 10,000 out of ballpark 200,000. It might be now 225,000.

Q. Right, because there are more people.

A. Yes. So I am not giving you the latest data, but that is my estimate of it.

Q. What are the assumptions -- you mentioned this yesterday -- that you had some assumptions that Dr. Balzer made that you disagree with. What are they?

A. In what respect?

Q. This was on a question Mr. Goetsch asked you and you said that you looked at Dr. Balzer's report in this case and you disagreed with some of his assumptions?

A. Oh, yes. I mean, it was mentioned that he had been provided information, presumably to counsel with whom he was discussing the case, and I don't know

where the information came from, but he was stating that Mr. Buckley rarely was exposed to asbestos and, when exposed, it would be occasionally, very infrequently, to low-exposure levels.

Q. That is the assumption you disagree with?

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A. That is completely negated by what Mr. Buckley states his activities in fact were.

Q. So basically you are relying on what Mr. Buckley told you?

A. Far far more than what Mr. Balzer was writing in some submission in this case. I don't remember to whom.

Q. Did Mr. Buckley have any responsibility to inspect fire extinguishers?

A. I don't recall. I don't believe so.

Q. Did he have any responsibility to fix pipes in bathrooms and things like that?

Q. He did at one time --

Q. No, 1985 to 1988.

A. In that period of time it would have been a very minor aspect of his activity, to my understanding.

Q. Based upon what he told you.

A. That's correct. He was replacing pipes but they were pipes -- seven hours a day he was doing pipe fitting work.

Q That is what he told you.

A. Yes. Roughly speaking.

Q. Fine, and that is what you relied on in rendering your opinion?

A. And that one hour a day -- it didn't matter

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what else he was doing over the other part of the day, but nearly every day, I was led to understand, he was banging, cutting, going at it with that ax, to remove asbestos from steam pipes in the tunnels.

Q. By the way, you had a scholarship or a fellowship from the Atomic Energy Commission?

A. I had a fellowship.

Q. When was that?

A. In 1955.

Q. What was that to study?

A. To study radiation effects, which I did at the University of Washington.

Q. Radiation effects on humans?

A. Well, it involved measurements, it involved human studies to some extent.

Q. Weren't you trying to figure out what exposure the soldiers had had at the test site as part of that study?

A. I was not doing that. I did not have information of any individual exposure measurements other than my own. I was aware of measurements made on planes, and I went to Washington contemplating doing research in radiation effects. I ended up spending more time doing physics.

Q. Just so it is clear, your CV states that from 1952 to 1955 you developed instrumentation for studies of ionizing radiation effects. Yes or no.

A. Yes. That's to measure ionizing radiation

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quantities and they can be related to effects studied by others. I was not doing animal experiments or human studies in the Air Force.

Q. But you knew about the experiments?

A. I knew about some.

Q. And, Doctor, the Atomic Energy Commission back at that time actually controlled the use of nuclear weapons in this country, isn't that right, until it went over to the Department of Energy?

A. That's correct.

Q. And they are the ones that gave you the grant?

A. One arm of it did. Not the one having to do with weapons.

Q. What arm?

A. An educational one. They were wanting people to be knowledgeable about radiation effects so they could become anywhere from researchers to measurers, you know, radiation control officers in a plant.

Q. Doctor, are you familiar with the OSHA small-scale exception?

THE COURT: You have got three minutes it left.

MR. LANDMAN: I will finish. Thank you, your Honor.

Q. Are you familiar with the OSHA small-scale exception?

A. In what context?

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Q. In connection with the type of work that Mr. Buckley did.

A. No, I am not.

Q. Doctor, do you know Dr. Roggli, or know of Dr. Roggli?

A. Yes.

Q. And who is he?

A. He is a researcher at an institution in North Carolina, I believe.

Q. What is his research on?

A. He has, I guess, a variety of things. I know he has done some asbestos research.

Q. Doctor, hasn't he in fact written a textbook on "Pathology of Asbestos-Associated Diseases"?

A. Obviously he has.

Q. Have you ever seen this before? Isn't this in the Mount Sinai library?

A. It probably is.

Q. And Dr. Roggli is professor of pathology at Duke University School of Medicine?

A. Yes.

Q. You have never written a textbook on asbestos medicine, have you, or asbestos diseases?

A. No, I have not.

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Q. Do you agree with Dr. Roggli when he states: "Some studies" -- at page 193 -- "have indicated that the risk of developing lung cancer in a ex-smoker is still greater than that of a lifelong nonsmoker, even 20

more years after cessation of smoking"? After they stop smoking.

A. Yes, I agree with that, and indeed took it into account in that chart that you decided to enter into --

THE COURT: Having agreed on something, let's adjourn for lunch.

MR. LANDMAN: Your Honor, one more question and we can be done with it. I guess you have redirect anyway.

MR. GOETSCH: Why don't you ask the question and you finish with the doctor.

Q. Doctor, isn't what you are doing here for Mr. Buckley fraught with difficulties because it depends upon individual sensitivity and uncertainties about the duration and extent of this individual exposure?

A. There are certainly uncertainties --

Q. Yes or no. Yes or no.

A. There are some uncertainties.

MR. LANDMAN: Why don't we take a break. I will have two minutes when we come back. I don't want to hold up the jury and you, your Honor. That is fine.

THE COURT: You were granted this time.

MR. LANDMAN: I can do it, your Honor. I just didn't want to keep everyone waiting.

MR. GOETSCH: I have two minutes.

MR. LANDMAN: One minute.

Q. On page 440 of that same deposition --

THE COURT: We are talking about the deposition --

MR. LANDMAN: -- that was taken two months ago in Baltimore, yes, the Baltimore shipyard.

THE COURT: All right.

"Q. But are you able under any circumstances to take B reading values and come up with a scientifically based estimate of the range of time weighted average exposure associated with the particular x-ray readings? In other words, if you have a series of x-ray readings, can you say, OK, I can say with reasonable scientific certainty that the time weighted average exposure was between A and B?

"A. It is very difficult to do that for an individual. One can make some estimates if one has a population and looks at the results of the total population. That is a more meaningful exercise, in that there are data and again it has to be considered in terms of the duration of exposure of the individual that do relate population exposure to the degree of abnormality 20 or 30 years later. So, on a population basis, some estimates could be made. On an individual, it is fraught with difficulties because it depends upon individual sensitivity

and the uncertainties of the time course of the individual's exposure." That was your testimony two months ago?

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A. That is correct, in relationship to relating asbestosis manifestation and exposure.

EXCERPT OF TRIAL TRANSCRIPT OF FEBRUARY 13 AND FEBRUARY 14, 1995 - TETIMONY OF MICHAEL BUCKLEY

[685]

MICHAEL JOSEPH BUCKLEY, called as a witness by the Plaintiff, having been duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. GOETSCH:

Q. What is your occupation, Mr. Buckley?

A. I work for Metro-North Railroad. I am a pipefitter plumber. I am also an emergency medical technician. I am also a volunteer firefighter which I hold the rank of lieutenant.

Q. When did you volunteer to become an emergency medical technician?

A. The date you said before, 1988, wasn't true. I completed my test and certification in 1993.

Q. How much training did you undergo for that position?

A. The original course was 6-1/2 months. I had another course that was another three and a half weeks.

Q. What are your responsibilities as an emergency medical technician at Grand Central?

A. We carry radios and if there is a medical emergency with either an employee, a contractor or a customer within Grand Central Terminal, we are called on the

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radio to respond to the medical emergency.

Q. Do you receive any additional pay for that work?

A. No, I do not, sir.

Q. When did you become a volunteer fireman for Metro-North?

A. I believe it was 1988 they started the fire brigade.

Q. When did you undergo any training regarding hazardous materials?

A. The first time we actually received any formal training, I believe it was in 1993 at the Valhalla Fire Academy in Westchester.

Q. What are your responsibilities as a volunteer lieutenant fireman at Grand Central Terminal?

A. Also we carry radios and respond to fires or hazardous situations within Grand Central Terminal.

Q. Do you receive any extra pay for that work?

A. No, I do not.

Q. What is your date of birth?

A. 5/22/54.

Q. Whereabouts were you raised?

A. Brooklyn, New York.

Q. What was your father's occupation?

A. My father was a locomotive engineer for Metro-North.

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Q. How old is your father?

A. My father, I believe, is 72.

Q. He is still alive?

A. Yes, he is.

Q. Is your mother still alive?

A. Yes, she is, thank you.

Q. How old is she?

A. My mother is 70.

Q. Do you have any brothers or sisters?

A. Yes, I do.

Q. How many do you have?

A. Altogether there was five boys and two girls in my family.

Q. Are all your siblings still living?

A. Yes, they are.

Q. Whereabouts were you educated, Mr. Buckley?

A. I went to grammar school, Saint Jerome's in Brooklyn.

Q. Where did you go after that?

A. I went to Erasmus Hall high school. I did not graduate.

Q. At what point did you leave high school?

A. It was towards the end of my second year.

Q. Why did you leave high school?

A. We had money problems in my family.

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MR. LANDMAN: Objection. Is that relevant, why he left?

THE COURT: It is part of his background.

THE WITNESS: We had money problems in my family. I came from a large family and I went to work.

Q. Have you received any vocational training?

A. Not official vocational training, no.

Q. What training did you receive?

A. There was a course they were giving at a local high school for plumbing and I attended a few classes.

Q. As a youngster did you have any health problems?

A. No, I did not.

Q. Were you physically active?

A. Yes, I was.

Q. What type of things would you do as a youngste

A. Normal things boys would do; basketball, football, baseball.

Q. How about hobbies; did you have any hobbies?

A. Collecting baseball cards, model planes, things like that.

Q. As you were growing up did you have any accidents or injuries?

A. Just your regular accidents growing up; falling down, scraping your knees, banging your elbows.

Q. Did you have any medical treatment for your

[689]

lungs?

A. No, I did not.

Q. Any problems with breathing or asthma?

A. No, sir.

Q. Does anyone in your immediate family have a history of lung disease?

A. They do not.

Q. while you were growing up was there any asbestos in your home as far as you know?

A. Not that I know of, sir.

Q. Are you married, Mr. Buckley?

A. Yes, I am.

Q. what is your wife's name?

A. Deidre.

Q. When did you first meet your wife, Deidre?

A. 1988.

Q. Do you have any children?

A. Yes, I do.

Q. what are their names and ages?

A. We just had our first boy, his name is Daniel Patrick. He was born eight months ago.

Q. While you were a youngster in high school, did you have any jobs?

A. Yes, I did.

Q. What type of things did you do?

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A. I worked at the local MacDonald's. I worked on weekends. I would help out a local contractor. Just small labor work we used to do.

Q. Did there come a time when you began working for the railroad?

A. Yes, there did.

Q. What railroad was that?

A. Penn Central Railroad.

Q. What day was that?

A. That was May 22, 1973.

Q. How old were you at the time?

A. I believe I was 19.

Q. What job did you begin working on the railroad?

A. I started as a carpenter.

Q. Whereabouts did you work as a carpenter?

A. I started out in Stamford, Connecticut.

Q. What type of things would you do as a carpenter in Stamford, Connecticut?

A. Install windows, loose floor boarding, railroad ties we used to install on bridges.

Q. Any exposure to insulation or asbestos as far as you know?

A. Not that I know; no, sir.

Q. What was your next job after the carpenter job?

A. I got a job on the west side of Manhattan still

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for Penn Central as a plumber.

Q. Is there any reason why you changed from a carpenter to a plumber?

A. I was always interested in plumbing work.

Q What type of work would you do in the West 60th Street yard?

A. Just small work; maintaining office building bathrooms, fixing toilets, sinks.

Q. As far as you know, did you have any exposure to asbestos during that job?

A. Not that I know; no, sir.

Q. After the plumber job, did you get another job on the railroad?

A. Yes. The West 60th Street yard eventually closed down and I went to the Oak Point yards in the South Bronx as a locomotive electrician.

Q. What type of work would you do up there?

A. I would inspect the locomotives daily.

Q. Did you do any work with brakes on locomotives?

A. No. That was the machinist's job. My electrical job was to make sure the lights, the cab signal which is a signal when the locomotive runs over a track, it tells you what signal is ahead of you.

Q. Any exposure to asbestos there as far as you know?

[692]

A. No, sir.

Q. Did there come a time when you began working for Metro-North Railroad?

A. Yes, there was.

Q. What date was that?

A. June of 1985.

Q. What position were you hired in?

A. As a pipefitter.

Q. What attracted you to become a pipefitter on Metro-North?

A. They finally -- they were hiring pipefitters, and like I expressed before, I was always interested in pipefitting and plumbing work.

Q. When you first started with Metro-North did they provide you with any type of training?

A. What type of training?

Q. Any safety instruction at all.

A. No, sir.

Q. Did they provide you with any protective clothing?

A. No. They gave us a hardhat and goggles the first day I started.

Q. That was it?

A. Yes, sir.

Q. Would you tell us the general nature of your

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duties as a pipefitter at Grand Central from June of 1985 on through June of 1988?

A. On a regular basis we were sent out in the mornings. We would report for work at 8:00. By 10 after 8:00 we would leave the shop and go to various locations

throughout the Grand Central steam tunnels to perform our duties for the day.

Q. During that period of time, from June of 1985 to June of 188, where did you spend the majority of your time within the Grand Central Terminal area?

A. Mainly, we were down in the steam tunnels.

Q. Would you name the steam tunnels at Grand Central Terminal where you spent the majority of your time?

A. The west tunnel, the east tunnel, the connecting tunnel, the 48th Street connecting tunnel, 45th Street truck and subway, 43rd Street truck and subway, various locations underneath the platforms were also part of the steam bridge system.

Q. Were there any other areas within the larger Grand Central Terminal where you worked as a pipefitter as well?

A. Yes. The 43rd Street meter room, the 49th Street meter room, the service plant.

Q. The tunnels that you worked in, how would you describe their dimensions?

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A. All of them were different sizes. The average size, like, for instance, the west tunnel has a ceiling height of maybe 15 feet and a width of maybe 20 feet.

Q. Back in the time period June of '85 to June of '88 which is what we are talking about what was the temperature like in the tunnel?

A. It was very hot.

Q. How hot was it?

A. I know one time we did get a thermometer and we checked and it was 135 degrees.

Q. Were there any pipes running through these tunnels where you worked?

A. Yes, there was, a lot of them.

Q. What kinds of pipes were running through the tunnels?

A. Mainly steam pipes but there were water pipes, electrical pipes and air lines also.

Q. What was the range of diameter of the pipes in the tunnels?

A. They went from the area of half inch up to 18. There were some locations where we did have 20-inch mains.

Q. Were those pipes in the tunnels insulated during '85-'88? .

A. Yes, they were.

Q. Do you now know what type of insulation covered

[695]

those pipes during that time period?

A. Yes, I do. It was asbestos.

Q. When were you informed that it was asbestos by Metro-North?

A. In the late part of 1987.

Q. During that time period from '85 to '88 were the tunnels in a clean or dirty condition?

A. They were dirty.

Q. How would you describe the condition of the asbestos insulation in the tunnels during that time period?

A. Some of it was still in tact and there was a lot of areas where it was broken off, mostly on elbows, around expansion joints where it had been repaired. A lot of it was broken off, hanging down. A lot of where you turned, mostly where you turned, were in disrepair.

Q. From '85 to June of '88 as a pipefitter did you work with any partners at Grand Central Terminal?

A. Yes, I did.

Q. when you worked with a partner, would you work alongside each other?

A. Yes.

Q. How many different pipefitters did you work with during that period?

A. Anybody that was in the pipe shop at the time, we all worked together at one time or another.

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Q. Would you describe for us the type of jobs that you and your pipefitter partners performed in the steam tunnels in '85 through June of 1988?

A. Most of the work we were hired to do at the time was capital improvement work. The tunnels were in such disrepair that at the time they hired us we were doing a lot of demolition work and renewing a lot of pipes.

Q. What areas of the pipes would you do jobs on?

A. Mostly we would change the valves, the expansion joints, the elbows; wherever there was a leak or they were changing the system to a different size line or relocating a line.

Q. Are you familiar with the terms "trap" and "free blow?"

A. Yes, I am.

Q. What do they mean?

A. A trap is a device put into the steam system that collects water, condensated water, and a free blow is a valve that is on a bigger line, that when you are shutting the system down that is where you release the pressure from, from the free blow.

Q. During this period did you ever perform an inspection in the pipe tunnels?

A. Yes, I did.

Q. How would you go about inspecting the pipes in

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the pipe tunnel?

A. We would walk through and look for leaks, look for broken handles on pipes, we would check the traps to see if the traps were in operating condition. This was done when we weren't doing maintenance work. This was done on a daily basis.

Q. When you were performing your pipefitter duties during this period, Mr. Buckley, was it necessary to disturb the insulation in the pipes in the steam tunnels?

A. Yes, it was.

Q. What would you stand on when you were working on the pipes in the tunnels?

A. Could you repeat the question, please?

Q. Whereabouts would you stand when you were working on the pipes in the tunnels?

A. Well, if the line was right in front of me I would stand right next to it and try to do my repair. If it was over my head, a lot of times we would just stand

on another pipe to do the repair. The pipes were big so we used to just walk across them.

Q. What happened to the insulation on the pipes where you were standing on those occasions?

A. Well, like I said, I started there in '85 so already they was already in disrepair. Wherever there was a valve that had to be shut off or turned on periodically you

[698]

would see, there would be like foot -- where people had already walked on it, it would be worn away. You could see almost like a path that would be cut through.

Q. Would you tell us how you removed asbestos pipe insulation from the pipes in Grand Central from June of '85 up to '88?

A. We had various ways of removing it. Mostly, we would take a knife to cut the outer coating off. Then we take a pair of shears, it was like a wire lath holding it together. After we got that the off we would get a hammer, basically a hammer or crowbar, and start pulling it down and knocking it off. It all depended on what type it was.

Q. What happened to the insulation you were disturbing and moving during that process?

A. It would scatter all over the place. It would become airborne; just like taking baby powder and shaking it, that is the way it would look. You are just knocking it all off. It would be all over the place.

Q. Did you ever encounter the dust in the air during this process?

A. Yes.

Q. How much dust would you encounter?

A. There would be a lot of dust. Until it all settled down it would be all over the place.

Q. Did dust ever settle on your person?

[699]

A. Yes, it did.

Q. Whereabouts would it settle on your person?

A. Well, it would be all over you, all over your clothing, especially if you are working overhead. I am short so most of the work is over my head. We would be banging it off. It would come down on top of your hair, in your ears, you would find it in your mouth.

Q. What was this sensation of the dust in your mouth?

A. it was like if you ever went to the beach and got sand in your mouth, it would be the same way. You would feel like a gritty feeling, some of it.

Q. How about your nose, did it ever get in your nose?

A. Yes, it did.

Q. What was the sensation in your nose?

A. Your nose would get clogged up.

Q. During the time period from '85 up through June of '88 did you and your partners have physical contact with asbestos on a daily basis?

A. On a daily basis, yes.

Q. On average during this time period how many hours a day would you spend physically removing or handling asbestos insulation?

A. If you want to put on it an average basis it

[700]

would be an hour or two. Some days it was more. Some days we would work maybe 2 or 3 hours; some days 20 minutes. if you want to average it, I would say an hour a day.

Q. Are you familiar with the term "Snowmen of Grand Central"?

A. Yes, I am.

Q. What does that mean to you?

A. When I first started working there they were already calling the people in the pipe shop snowmen and I didn't understand what it was at first.

When I started working I understood why they were calling the people snowmen. When you came out of the tunnels you were covered head to toe with asbestos.

Q. Did you become one of the snowmen of Grand Central Terminal?

A. Once you started working in the pipe shop you automatically got that handle, yes.

Q. Can you recall your first job removing asbestos in Grand Central?

A. Yes, I can.

Q. Tell us about that.

A. It was a big deal for me because we were working in the Waldorf Astoria. At the time Metro-North would feed steam to the Waldorf steam. We had two 12-inch lines that went into their sub-basement. Eventually they got their

[701]

steam from Con Edison. We were required to remove our lines from their property.

There were two valves that came in side by side. They were located high up in the ceilings. We had to go there with ladders. We went on top of the ladder. This is the first time I ever had to do something this big. This is the first time I saw a valve that big.

We started knocking asbestos off. At the time I didn't know it was asbestos. We had to do that to get to the bolts. The valve is held together with the pipe with a flange, it is called. There are 16 bolts, one inch bolts that go around it to hold it together. You

have to knock off all the asbestos to get to where the bolts are.

Q. What happened when you knocked the insulation off?

A. It was over our heads so when I was knocking it down it would all become very powdery. It was like snowing down on top of us.

Q. Was that insulation in a dry or wet condition?

A. It was very dry.

Q. Can you give us examples of particular jobs where you worked with partners involving removing handling asbestos?

A. That was -- that one job there in the Waldorf Astoria stuck out in my mind more than any other job. It

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was the Waldorf Astoria, a very famous place.

Also the 49th Street meter room, I changed a 16-inch expansion joint with another member of the pipe shop, and the expansion joint. The original joint was smaller and the expansion joint they bought was larger, so in order to fit it in we had to cut the line back.

In other words, we had to cut the flange off, cut a piece of pipe out to make the line longer, so in order to do that we had to remove the asbestos covering that was on the line.

Q. How far back from the immediate area did you remove the asbestos insulation?

A. We would go back about three feet on a job like that.

Q. Three feet on --

A. On one side and the other side maybe go back a foot to get the bolts out in order to drop this expansion joint.

Q. Any other jobs or locations that you can give us examples of?

A. Yes. The Biltmore Hotel when it was located in Manhattan, we also fed them steam, and when we discontinued feeding them steam they wanted -- Metro-North wanted the lines removed from the area. It is called the Biltmore area. They wanted the lines removed. It was two eight inch

[703]

lines, I believe it was, that fed them. They wanted not just the valves cut off. They wanted the lines out to make a big work area so we would have, we went down there and spent almost four days removing the asbestos. It was two eight inch lines. It was in a tight area.

We had to remove all the asbestos and as we were removing the asbestos. We cut the pipe with a torch, an acetylene torch. We would cut the pipe in three foot sections so we can hand over the pipe. The pipe is heavy. We had to move all the asbestos off the line, then cut the pipe into sections to get it out.

Q. Can you give us an example of a job in one of the east or west tunnels where you did asbestos?

A. The west tunnel, we were always working in the west tunnel repairing flanges on an 18-inch line where there was leaks at one time. We would have to remove the asbestos off the flange.

The same thing, you have to cut it back on either side to get to where the flange is so you can open it up and replace the gasket inside of it.

Q. How many feet on each side of that did you remove the asbestos?

A. About two feet; just so you have enough room to work.

Q. Mr. Buckley, when a pipe is leaking steam or

[704]

water, what is the first thing that you have to do in order to repair it?

A. We have to do a steam shut down it is called.

Q. What is the purpose of the steam shut down?

A. To relieve the pressure in the line so the line can be opened up. I think there is 175 pounds of steam pressure in the line.

Q. When the pipe is shut down what happens to the steam or water that is leaking?

A. If there was a leak on the line, once you shut it down it usually dries up because the pipe is very hot. It is like an iron. It is as hot as an iron, I guess.

Once you shut it down you let the line start to cool down. That would take an hour or two hours. The line would drop down and cool down before you were able to work on it.

Q. When you started to work on the particular area, how damp or dry would the insulation be where you were working?

A. It would be dry.

Q. The reason it would be dry is what?

A. The heat of the pipe would dry it up. Once the leak stopped, the heat from the pipes, it is like taking a wet pair of gloves and putting it on a radiator; eventually they dry.

[705]

Q. When you cut below the surface of the insulation, Mr. Buckley, what was the condition of the insulation below? Was it wet or dry?

A. It was dry.

Q. The air in the tunnels during the period from June of '85 through June of '88, was that in a dry or moist condition?

A. Predominantly, most of the areas we worked in were very dry.

Q. Why is that?

A. Steam, it is like having radiators, like having 1,000 radiators in this room. It would be very dry.

Q. When you were removing the asbestos pipe insulation, how far away from it would your face be?

A. Arms length.

Q. Did you and your partner pipefitters use any devices to circulate the air in the steam tunnels?

A. we used electric fans and we used to use a device called an air horn.

Q. How would you describe an air horn?

A. We used an air horn. It was a device used -originally we used it to divert steam. If had you a steam leak and you were trying to work on it with the pressure on, you would put this horn facing up and it would just suck the steam away from you. But eventually we used to use them to

[706]

keep cool with.

Q. Did laborers use air horns as part of their job?

A. No. It was just the pipe shop that used to use air horns.

Q. What would happen to the friable asbestos in the area you were working in when one of the air horns were turned on?

A. Everything would start blowing around.

Q. What type of fans would you use?

A. We would use box fans, they are called, large box fans. We used to wheel them down.

Q. What would happen when the fans were turned on in the tunnels?

A. If it wasn't too hot, if the tunnel was too hot, they would shut off automatically. There was a safety device on them. When they overheated they would shut down which happened a lot but if it was where they would stay on, they would just blow the air around. It wasn't that it was cooling you. It was just a breeze. We were trying to just get a breeze.

Q. Are you now familiar with a device known as a personal air monitoring device?

A. Yes, I am.

Q. Briefly, what does that do?

A. From what I understand, they hook it on to your

[707]

belt and then there is a hose that comes up and goes around your shoulder and it is supposed to monitor

the air that is around your breathing area. It is supposed to take samples of it.

Q. From June of '85 up through June of '88, did Metro-North provide you with any such personal air monitoring device?

A. No, they did not.

Q. From June of '85 up to June of '88 did Metro-North ever measure the amount of asbestos fibers in the air you were breathing while you were actually working with friable asbestos insulation in the tunnels?

A. No.

Q. Between '85 and June of '88 did you ever see any air measurement devices in the tunnels at all?

A. No. While we were working, no, sir.

Q. Have you reviewed the exhibit marked Plaintiff's Exhibit 0028, a list of the ambient air samples taken in Grand Central from 1985 through June of 1988?

A. Yes, I saw this.

Q. Will you tell us, during the entire year in 1985, how many ambient air samples were taken by Metro-North?

A. Seven.

Q. What were the locations of those samples?

A. There was two taken in the ticket office. The

[708]

rest were taken at a location known as the refrigeration plant.

Q. on what dates were they taken?

A. There was two taken on 4/22/85; the rest were taken on 1/3/85.

Q. You began working for Metro-North in what month of '85?

A. June of 1985.

Q. For the entire year 1986, how many ambient air samples did Metro-North take for 1986?

A. There is none here for 1986.

Q. None?

A. None at all.

Q. Between January of 1987 and August of 1987?

A. Can you repeat the date? I am sorry.

Q. Starting in January of 1987, do you see that?

A. Yes.

Q. Going up to August of 1987, how many ambient air samples did Metro-North. take in Grand Central Terminal?

A. Four.

Q. What were the dates for those samples?

A. 1/5/87, 1/5/87, 7/21/87, 7/21/87.

Q. Were any of those ambient air samples taken at a location or time when you were actually removing or handling asbestos insulation?

[709]

A. Not that I could say, no.

Q. I direct your attention to the background ambient air test taken on September 23, 1987 at the pipe shop; do you see that there?

A. Yes.

Q. In September of 1987 did you remove asbestos insulation in the pipe shop?

A. No, I did not.

Q. Do you recall seeing any air test device in the pipe shop while you were working your shift?

A. No.

Q. I direct your attention to the background ambient air test taken on March 22, 1988. Would you turn to that, please, in the east tunnel?

A. Okay, I have it.

Q. That was taken by Envirosafe?

A. By Envirosafe, yes, sir.

Q. Did you ever remove or handle asbestos in the east tunnel when an air testing device was present?

A. No.

Q. Prior to late 1987, Mr. Buckley, but before that, from '85 up through August of 1987, did Metro-North give you any asbestos protective clothing to wear while handling asbestos?

A. No, they did not.

[710]

Q. Did anyone at Metro-North make you aware that asbestos protective clothing was available?

A. No. Nobody ever offered us or nobody ever told us there was anything available to us.

Q. Prior to September of '87 did you ever see any asbestos protective clothing being worn in Grand Central Terminal?

A. No.

Q. What clothes would you wear while you were handling asbestos from '85 up through late 1987?

A. Street clothes, work clothes.

Q. Did Metro-North instruct you to wash your clothes before going home to work?

A. No.

Q. At the end of the day, what did you do about any dust on your work clothes?

A. We would go back to the shop. We have an air hose. We on would blow ourselves off the best we can.

Q. Did you ever leave Grand Central to go home in dusty work clothes?

A. Sometimes I did; if I was in a rush to get home, yes.

Q. Did Metro-North provide you with any laundry facilities?

A. No, they did not.

[711]

Q. Did there come a time on August 31, 1987 when Metro-North sent you to an asbestos awareness class?

A. Yes, they did; August of 1987.

Q. How long did that class last?

A. Actually, it only lasted six hours. People say it is eight but it was only six.

Q. Why was it six?

A. Because we reported to work at 8:00 in the morning. When we got to work they sent us over there. We didn't get there until 9:00. At the end of the day we had to report back so we left there around 3:00 in the afternoon do get back to Metro-North.

Q. Who conducted that class?

A. A company called Envirosafe.

Q. What is Envirosafe as far as you know?

A. It is an asbestos removal company.

Q. Was the term "friable asbestos" explained to you during that class?

A. During that class, yes, it was.

Q. Was that the first time you heard the term?

A. Yes, it was.

Q. What is your understanding of the term "friable asbestos?"

A. From my understanding, asbestos that is loose and hanging and that can become airborne.

[712]

Q. Knowing what you now know about friable asbestos, was there any such asbestos in the tunnels from June of 1985 to June of 1988?

A. Yes, there was.

Q. During that class were you informed of any health hazards to human beings that asbestos exposure can cause?

A. Yes, I was.

Q. What hazards were you informed of?

A. They showed us a training film and they explained to us about different diseases you can get from asbestos.

Q. What diseases did they explain?

A. Lung diseases mainly. There was one mesothelioma, that stuck out in our minds the most.

Q. Did that class illustrate any of those diseases for you by video or movies?

A. Yes.

Q. What type of illustrations were you shown?

A. There was two films. There was one film they showed us that was more or less like a cartoon. There was a cartoon character involved it in.

The second one, they were discussing how, when you do remove asbestos, the way to do it with full encapsulation if you are doing a big area, and then the film got on to telling you about different diseases you can get, and at the end of the film a guy was talking, he was lying

[713]

in bed and dying of mesothelioma.

Q. After that class, were you given a certificate of any kind?

A. They gave us a certificate; it was -- that we attended an asbestos awareness class, yes.

Q. Who gave you that certificate?

A. We received that, I believe it was the next day, from Mr. Macaluso.

Q. What position did he have?

A. I believe he was superintendent, some type of superintendent of maintenance.

Q. What did superintendent Macaluso tell you was the meaning of that certificate?

A. He told us that those certificates he handed us were licenses to remove asbestos and that we were licensed now to remove asbestos.

Q. What did that certificate actually say?

A. Now I learned -- actually, now the certificate, all it says is that we attended an asbestos awareness class.

Q. Mr. Buckley, I am handing you page 37 of Plaintiff's Exhibit 0099 and ask you to read the definition of "competent person" on that page to yourself, if you would? Just read it, please.

A. Okay.

Q. Mr. Buckley, as far as you know, were you trained

[714]

to be a competent person within the meaning of that definition?

A. Not what this says, no, I was not.

Q. Did you ever actually receive a license to remove or handle asbestos?

A. No, I did, not.

Q. After that class in August of 1987 did your Metro-North supervisors assign you to removing and disturbance of asbestos in the tunnels?

A. After they gave us the certificates they told us we were licensed to remove the asbestos. Now we had no complaints. To do it; just keep doing it.

Q. Between June of 1985 and that class in August of 1987, did Metro-North instruct you to wear any respirator while removing asbestos insulation?

A. Would you just repeat the first part of the question?

Q. Between June of 1985 when you started work at Metro-North and that class in August of 1987 --

A. Yes.

Q. Did Metro-North instruct you to wear a respirator while removing asbestos insulation?

A. No, they did not.

Q. In February of 1987, did you attend a respirator class?

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A. What month? My mind is wandering.

Q. In February of 1987.

A. Yes, I did.

Q. During that class were you instructed to wear a respirator while working with pipe insulation?

A. We went -- the class we went to, they just showed us how to use masks, 3M masks.

Q. When you refer to a "3M mask," what are you referring to?

A. The type of mask, a half face, a green mask.

Q. During that class were you instructed to wear any such respirator while removing asbestos pipe insulation?

A. No.

Q. Were you given any respirator at that class or shortly after that class?

A. No, because when I took that class, they didn't give me a mask because I had a growth, a beard growth, and they wouldn't fit me with a mask so I had to sit in and listen to the class but I received no mask from that class, no, sir.

Q. Did Metro-North ever provide you with a half face respirator?

A. Ever?

Q. Yes; subsequent to the class?

A. No, they did not.

[716]

Q. At the one-day class in August of 1987 did Metro-North provide you with any respirator?

A. Yes, they did.

Q. What did they provide you with?

A. A half face respirator. They gave it to us at that class.

Q. How did they give that you respirator?

A. We sat down, they gave us a lecture. Then we saw the films. Then we went into a room in the back and they were going to teach us how to remove asbestos. As we went in there there was a woman in back and she would look at your face and hand you a respirator to wear.

Q. were you handed such a respirator?

A. Yes, I was.

Q. In the months following that class in August of 1987 did you continue to work with and around asbestos?

A. Yes, I did.

Q. During those times did you attempt to use that half face respirator?

A. Yes.

Q. What would happen when you tried to use the half face respirator when you were working on the asbestos insulation?

A. A lot of times you couldn't get a good fit on the mask because it was big, they gave you a large one, and you

[717]

had a gap underneath your chin. So it wouldn't fit the way it was supposed to.

Now I know the way they are supposed to be fitted now. They didn't fit that way. They would hang down. Being that you were working in tunnels that were very hot, you would sweat, so the mask would pull down on your face as you were trying to work.

Q. Did you ever try to adjust the mask while you were working?

A. Yes. You would constantly have to adjust the mask. You would have to pull it back on your head. You would get wet from sweating and it would fall down on your face.

Q. What did you do about the fact that the respirator wasn't working?

A. We complained to our immediate supervisor.

Q. Who because that?

A. Michael Maestrallis.

Q. What did you say to the supervisor?

A. We said, the mask didn't fit correctly. He said, do the best you can. If it don't fit, don't worry about it.

Q. Did you ask for a new respirator?

A. He said, this is what they gave you at the class, this is all we have right now.

Q. Did Metro-North give you any instructions

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regarding wearing the respirators in the public areas of the terminal?

A. Yes. One time we were working on, I believe it was, track 23. I was with another member of the pipe shop, Glenn Edmonds, and we were repairing a steam line that used to give steam to the trains. It was a 2-inch line. We had on change the valve.

In order to change the valve we had to remove the asbestos. We were going to do a glove bag technique. When Mr. Macaluso came up, he saw us working there. We had the masks on. He said, do not wear those masks in public areas. We do not need anybody to know what is going on here.

Q. Did Metro--North eventually supply you with a full face respirator, Mr. Buckley?

A. Yes, they did.

Q. When did they give you a full face respirator?

A. I believe it was in 1988.

Q. Do you recall the month?

A. I know it was, I think it was May of 1988. We had training on it. Somebody came to our shop and trained us on the how to wear the mask but they didn't give us any. That was just the training. It was months before. I think it was three or four months later on when they finally did give us that mask.

Q. After you had that training class for the full

[719]

face respirator, did you sign any certificate of training that had you been trained?

A. I believe I did, yes.

Q. In the February of 1987 class, did you sign any certificate confirming that you had been trained or fit tested in February of 1987?

A. No. I signed a paper that I attended the class. As soon as you go there they have to take attendance so they know where you were that day so your supervisor knows you were at that class.

Q. During the class in August of 1987 were you shown a technique known as a glove bag technique?

A. Yes, I was.

Q. What is that technique?

A. A glove bag technique is a technique they use. You put a bag around a piece of pipe. It has to be a small line, not a big line.

Q. How small or how big?

A. The biggest line we ever tried it on was a 2-inch line which is only about this big with the insulation covering. We would put it around, staple it, put duct tape on trying to seal it up.

Inside the bag you would have gloves. Before you tried this, you would drop a knife inside the bag. There was a pocket that would hold the knife or whatever else you

[720]

were going to use to remove the insulation.

You would put your hands inside the bag, pick the knife up and start cutting away the insulation. Once you would do that you would take the pipe, take your hands back out of the bag, take the duct tape and wrap it around the top of the bag and cut it.

Q. Did you ever attempt to use that technique in the steam tunnels subsequent to August of 1987?

A. Yes, we did.

Q. What happened when you tried to do that?

A. It worked good until we got the insulation off. Once we got the insulation off the steam pipes, they are very hot. It just melted the plastic and the bag just dropped on the ground.

Q. What happened when the bag melted and dropped?

A. Everything came out of it.

[721]

Q. Did you tell your supervisors about the problems you were having with the glove bag?

A. Yes, we did,.

Q. What was their response?

MR. LANDMAN: Objection; relevance.

THE COURT: I will allow it.

Q. What was their response?

A. Just continue doing that, that they knew about the problem.

Q. Do you consider yourself to be personally familiar with the conditions of the pipe insulation in the Grand Central tunnel from 1985 up to June of 1988?

A. Yes, I do.

Q. Have you been in the same tunnel in June and July of 1994?

A. Yes.

Q. How did the condition of the asbestos pipe insulation in those tunnels in 1994 compare to the condition of the asbestos insulation during 1985 to 1988?

A. It's a lot better now.

Q. How do the conditions differ?

A. Well, in most respects, it is no longer friable, and the area has been cleaned up. A lot of the pipes have been removed so you don't have as many pipes any more.

Q. Who performed that work as far as you know?

[722]

A. I know they had -- it wasn't just one company that did it -- they had a few different companies, because there was a lot to be done. So they had a few different companies coming down, removing the asbestos.

Then they had another company come in and remove all the pipes after the asbestos was removed.

Q. Did you personally observe those workers doing work in the tunnels?

A. I couldn't avoid but seeing many people down there.

Q. How would they go about removing the asbestos insulation?

A. They would do a technique called a full capsulation, where the whole area was laden with latex -- not latex -- plastic bags, giant bags, and wrapped them all around the floor. Then they would build a wooden enclosure around it and the people would go inside there, you know, all dressed in their suits. They would go to one area, they would get changed out of their street clothes into, you know, the protective clothing. Then they would go to another area to perform the work.

Q. Have you ever had any injuries while working for Metro-North?

A. Yes, I did.

Q. What type of injuries did you have?

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A. I have fallen. I fell on my back once. I cut myself. I was attacked once by an individual.

Q. Did Metro-North require you to report all injuries?

A. All injuries no matter how small they are, according to your safety book, are supposed to be reported immediately to the supervisor.

Q. And, Mr. Buckley, did you ever file any lawsuits over those injuries?

A. No, I was never in court with a lawsuit, no.

Q. During the calendar year of 1987, how many weeks did you not work due to vacation, sick day, permanent days, whatever?

A. I took my normal vacation time.

Q. How many weeks was that?

A. Two weeks I got.

THE COURT: Why don't you pick a time within the next five minutes or so for a break.

MR. GOETSCH: OK, your Honor.

THE COURT: It doesn't have to be now.

MR. GOETSCH: Great.

A. Then you have, you know, regular holidays, Christmas, New Year's we would get off. And then there was one period where I would take a few weeks off from work; I had personal business to take care of.

[724]

Q. Did you receive a letter from your superintendent regarding that?

A. Yes, I did.

Q. Did you meet with him?

A. Yes, I told him I was having some problems and he understood.

Q. Were you ever disciplined and charged in connection with your attendance?

A. No, I was not. After I was talked to, I corrected the situation.

MR. GOETSCH: This is a good place, your Honor.

THE COURT: Why don't we just take a short break. (Recess)

THE COURT: Please proceed.

Q. Mr. Buckley, when you went to that respirator training session in February of '87, did you know that the insulation material which you were working with at that time contained asbestos?

A. No, nobody told us that.

Q. Did anyone at that training session inform you that the insulation you were working with did contain asbestos?

A. No.

Q. Did anyone at that training session instruct you to wear a respirator while removing the pipe insulation at

[725]

Grand Central?

A. No.

Q. Mr. Buckley, when did you know for a fact that you had been working with asbestos at Grand Central Terminal?

A. When we actually found out that it was asbestos was in August of 1987 when we attended the training course that Envirosafe gave us.

Q. Mr. Buckley, in the month following that training class in August of '87, how did you feel about your asbestos exposure?

A. Once I found out about it, I was mad that all the years that we were doing it, that we were just now finding out it was asbestos. I was scared, I was upset, and I was angry at Metro-North.

Q. What were you scared about, Mr. Buckley?

A. Just watching the films, they told you about the exposure, how a small exposure could kill you.

Q. Did you express your concern and fear to anyone?

A. Yes, I did.

Q. Who did you express your concerns with?

A. We started with our immediate supervisor Maestrallis. From there we went to the superintendents, Macaluso, Gropper, went to the safety department. Finally, I wrote a letter, along with other people in the pipe shop,

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to the terminal superintendent, Palmer. And he returned a letter to us stating that it's your job to remove asbestos, you're licensed now, so do it.

Q. When you spoke to the foremen, supervisors and superintendent, what did you express to them? What was the concern that you expressed?

A. I wanted to know what was going on. I was scared. You know, is this stuff really going to kill us like the film told us it was going to? We wanted some more answers. We weren't going to remove it any more. We told them we weren't going to remove it, that's it. There was a daily fight every day. Either you remove it or you'd be out of a job.

Q. After that letter from the general superintendent of Grand Central Terminal, did you express your concern to anyone else in?

A. The MTA Inspector General's Office is located in Park Avenue.

Q. What is the MTA Inspector General's Office?

A. They investigate crime and corruption throughout the MTA system.

Q. What is the address of that office?

A. It is 100 Park Avenue. It is right across the street from Grand Central Terminal.

Q. When did you go to the Inspector General's Office?

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A. It was the early part of 1988.

Q. What did you go to the Inspector General's Office, what prompted you to go?

A. I went there. I wanted to find out if they could do anything to hold Metro-North liable for what they did to me.

Q. What concerns did you express to the Inspector General at that point?

A. I told him about the training, you know, the training films we saw. I expressed my concern about the asbestos level, the asbestos contamination level that I received in previous years, and I wanted to know what was going on. I wanted it to be stopped. I didn't want to do it any more.

Q. What happened with that Inspector General investigation?

MR. LANDMAN: Objection; relevance.

THE COURT: Sustained.

Q. Did there come a time, Mr. Buckley, when you learned that the Inspector General had issued a report regarding your complaint?

A. The report come out, I think it was, 18 months after we originally went there, and they had sent the report down to us.

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Q. What effect did the issuance of that report have on your concern about your asbestos exposure at Grand Central?

A. It confirmed my fears, because in the context of the report, it was also investigated jointly with the Robert Abrams office, the Attorney General's Office. And they did cite numerous violations Metro-North was committing

MR. LANDMAN: Objection.

Q. Without stating any particular citations or violations, Mr. Buckley, my question was: What effect did the issuance of that report have on your state of mind regarding your asbestos exposure?

A. It confirmed my fears even more and made me angrier.

THE COURT: Cite the particular thing that the report said which caused your mind to react.

MR. GOETSCH: I am sorry, your Honor?

THE COURT: I am saying I am overruling his objection. He can cite what there was in the report that caused his mind to react.

MR. GOETSCH: Thank you, your Honor.

Q. Mr. Buckley, will you tell us what was in the report that caused your mind to react in the way that you testified?

A. I can't cite page for page what it said, but in context,

[729]

if I can take it out of this, it said Metro-North was breaking the law by making us remove the asbestos.

Q. How did that make you feel about your asbestos exposure?

A. As I said, it made me even angrier, it made me even more frightened because their own agency is investigating and said, yes, you are doing wrong, you can't do this.

Q. Were you here, Mr. Buckley, when Department of Labor Inspector Joseph Stremlin testified?

A. Yes, I was.

Q. Were you working in Grand Central Terminal when Department of Labor Inspector Joseph Stremlin inspected Grand Central in October of '89?

A. Yes.

Q. What effect did Mr. Stremlin's inspection have on your state of mind regarding your asbestos exposure?

A. Again, after Mr. Stremlin did an inspection, he did write a report on the conditions he had found in the Grand Central Terminal, and when the report came out.

MR. LANDMAN: Objection, your Honor. The relevant time period is June 1985 to June 1988 for which plaintiff is claiming exposure. Mr. Stremlin testified on the first day of the trial that he was not even there until 1989. So I don't see the relevance of this.

MR. GOETSCH: We are talking about his concern and anger and feeling about his asbestos exposure during that period.

THE COURT: He can tell us about what generated his anger.

MR. LANDMAN: Even if it is not based on the exposure period?

THE COURT: Anything that caused him anger he can tell us about.

THE WITNESS: Thank you, your Honor.

A. After Mr. Stremlin did his inspection and investigation of Metro-North practices, he wrote a report. That report came out, and it did cite Metro-North in numerous violations that they committed and were still committing at the time of his inspection -- the

working conditions, the conditions of the pipes, how he had told them in the past to correct the situations, and in the report he cites that after he came back the situations were still the same.

Q. How did that make you feel about your asbestos exposure?

A. I didn't know who to trust anymore. Metro-North, you know, I am working for a company who is supposed to protect you, their safety department is supposed to make sure you work in a safe area. And they are not.

[731]

They weren't making sure that where I had to work was safe; that I wasn't going to die from asbestos or something else. They weren't making sure of that. All they wanted to do was make sure you worked. That's all they cared about.

Q. After Mr. Stremlin's inspection, were you given a personal air monitoring test in October '89?

A. Yes, after he was in, he insisted that people have air monitoring tests done.

Q. What was the effect of you having that personal air monitoring test in October of '89?

A. Even I found --

MR. LANDMAN: Objection. This is a personal air monitoring test that is now done a year after the relevant time period. I don't

see how this could possibly be relevant.

THE COURT: If he can explain why that made him angry, you can cross-examine.

MR. LANDMAN: Your Honor, can we just approach for one thing, because there is one document I would like to share with the Court.

THE COURT: All right.

(In the robing room)

MR. LANDMAN: Your Honor, what plaintiff's counsel is now getting into is that there was one air monitoring test that was done in 1989, October '89, which

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was arguably a little bit over the permissible exposure limit. The point about this is, and why I wanted to talk to your Honor outside the presence of the jury: On September 26, 1994, we received a letter from Mr. Goetsch which specifically confirmed various discussions that had gone on, on which we henceforth had prepared this case, Metro-North and the plaintiff. It states: That the plaintiff is claiming exposure to hazardous amounts of asbestos for an average of one hour per day while actual removal, handling

and working in asbestos insulation, as opposed to ambient air exposure -- which is what they are getting into during the period from June of 1985 to June of 1988.

Having seen generally his, I would say, case collapse, he is now trying to introduce a new aspect to this case, which obviously we did not cross-examine Dr. Nicholson about, Dr. Markowitz about, and it is just going to put something in front of the jury that they specifically said is not in there. They are going to talk about a test that occurred 15 months after the time period that is relevant.

Even if his exposure level showed on that particular day it was over the permissible exposure limit, they completely said that is not part of their claim in this case. It is going to cause me, your Honor, among other people, to call a number of other witnesses to talk about that particular exposure, and it is going to introduce the whole

[733]

ambient air exposure history, which we are prepared to do, but it is going to change this case dramatically from what the agreement was of counsel. Plus, the jury is going to hear this in the absence of any testimony by any

expert that it makes one bit of difference. No cross-examination. They didn't bring it in. They didn't list it as a trial exhibit.

THE COURT: Why doesn't that letter exclude it?

MR. GOETSCH: I am not going to ask him the results of that test.

THE COURT: No, but you said they are not going to talk about that kind of exposure. That is the end of that.

MR. GOETSCH: But, your Honor, the relevance is this, if you will.

THE COURT: You said you are not going to talk about it. You should have thought about that before you signed that letter.

MR. GOETSCH: It does relate to the '85 and '88 because he wasn't given personal tests then and that is part of his concern. That is the only relevance and that is all it is offered for, not the results.

THE COURT: You are not going to talk about this type of exposure. You said you weren't and you are not going to. That is the end of that.

[734]

MR. GOETSCH: Your Honor, can I ask him what the effect of just having the test was on his concern? That is all. Not the result. Just what effect did that have on your concern and worry about your asbestos exposure from '85 to '88. It concerned him because --

THE COURT: You said you weren't going to go into this thing.

MR. GOETSCH: For exposure. It is relevant.

THE COURT: You have an exception.

(In open court)

Q. Mr. Buckley, after you were given that personal air monitoring test, did Metro-North send you for any asbestos medical testing?

A. Yes, I believe they did.

Q. From August of 1987 up to that point in October of 1989, had you ever asked Metro-North to test you for asbestos exposure?

A. Yes, we did. I am sorry, I did.

Q. What response did you get?

A. Well, "No."

Q. Where did Mr. North send you for this asbestos medical test in October of '89?

A. The medical department at Grand Central Terminal.

Q. Are you referring to the Metro-North medical department?

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A. Yes, Metro-North medical department.

Q. And what test did the Metro-North medical department perform on you regarding asbestos?

A. That is breathing through a tube to measure your lung capacity. They took a blood test and a urine test. And they sent us for a chest x-ray.

Q. Who conducted those tests?

A. A nurse that was working there at the time.

THE COURT: I didn't understand what you said.

THE WITNESS: A nurse that was working there at the time.

Q. Mr. Buckley, did you ask the Metro-North medical department for copies of your x-rays and test results?

A. Yes.

Q. Did they provide you with copies of your x-rays and test results?

A. No, they did not.

Q. How did that make you feel in relation to your asbestos exposure?

A. At first I was mad. I said maybe they are hiding something from me. And then I asked them. They said, if there was anything wrong with you, we'd let you know.

Q. Did you ever ask the Metro-North medical department to be examined by a medical doctor for asbestos exposure?

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A. Yes, I did.

Q. What was their response to that?

A. They told us the procedure is the same, that the nurse that does it is the one that is going to continue to do it.

Q. Did Metro-North offer to pay for the cost of a medical doctor to examine you?

A. No.

Q. Did your regular medical coverage cover the cost of an outside medical doctor to do an asbestos exam?

A. No, because I was worried about asbestos contamination or exposure, I am sorry, exposure, and that is considered an on-the-job injury. And my personal medical would not cover that. It would have to be

covered by the Metro-North, would have to pay for that.

Q. When did you decide to retain a law firm regarding your exposure to asbestos in Grand Central Terminal, Mr. Buckley?

A. Well, after I read all of these reports there, the Inspector General's report --

THE COURT: No, "when," he said.

THE WITNESS: I am getting to that, your Honor, I am sorry. It was in 1989 I decided that I was going to try to get somebody to represent me legally.

Q. Was that before or after your asbestos medical

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exam at Grand Central Terminal?

A. It was after.

Q. Tell us, why did you retain a law firm at that point in time?

A. I wanted Metro-North to be held accountable for what they did.

Q. How did it come about that you retained my law firm?

A. I went to another law firm originally, and I had gone home and I was talking to my father about it, and my

father suggested another law firm, which was Cahill, Goetsch & DiPersia. And, of course, my father told me he is personally, he knows one of the attorney's sons that he worked with on the railroad.

Q. Which attorney was he referring to?

A. Mr. Cahill.

Q. How did he know my partner Mr. Cahill?

A. Mr. Cahill's father had stayed in my house a few times. My father and Mr. Cahill's father worked together. My father was an engineer and Mr. Cahill's father was a conductor on the railroad.

Q. How did you first contact my firm?

A. My father gave me the phone number and I called.

Q. And who did you speak to when you called?

A. Your associate.

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Q. Who is?

A. Mr. Cahill.

Q. Mr. Cahill?

A. Yes, sir.

Q. What did you ask Mr. Cahill when you called him?

A. If Metro-North can be held accountable for what they did.

Q. What did Mr. Cahill say to you?

A. He'd do his best.

Q. Did you personally meet with my partner, Mr. Cahill?

A. Yes, I did.

Q. Whereabouts was that?

A. Across from Grand Central Terminal. It was a Howard Johnson there at one time, and I met him in there.

Q. Was it at that point that you retained my firm?

A. Yes, it was.

Q. In the months leading up to retaining an attorney, Mr. Buckley, did you have any concerns about increased risk of developing asbestos disease?

A. Yes, I did.

Q. Did you know how much of an increased risk you had at that point?

A. From the training films that Metro-North themselves were sending me to, told me it was a high risk.

[739]

Q. But did you have any particular amount in your mind at that point in time?

A. A lot. A lot.

Q. What was your position regarding being examined by an asbestos medical doctor outside of Metro-North?

A. I wanted to find out exactly what my chances are of contracting asbestosis or mesothelioma, so I wanted to find a doctor that was just not a nurse at Grand Central. I wanted to find a doctor that knew more about it, a specialist.

Q. Did you know of any such asbestos specialist?

A. No, I did not.

Q. What did you do about going to a medical doctor outside of Metro-North?

A. I discussed it with Mr. Cahill.

Q. What was the nature of that discussion?

A. I wanted to know if he could recommend somebody, a specialist that I could go see to find out exactly what my chances are of contracting asbestos-related diseases.

Q. What was the upshot of that?

A. He recommended me to a doctor in Mount Sinai Hospital.

Q. When did you first go to Mount Sinai Occupational Health Clinic?

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A. I believe it was in 1991.

Q. What doctor were you examined by?

A. Dr. Herbert.

Q. What month of the year was that?

A. It was the early part, maybe February or March, I am not sure. I can't tell you the exact month. I know it was the early part; it was cold out when I went there.

Q. What year was that?

A. I believe it was 1990, '91.

Q. Were you examined by Dr. Herbert?

A. Yes, I was.

Q. Did she take your medical history?

A. Yes, she did.

Q. Did she ask about your occupational history?

A. Yes, she did.

Q. And did she conduct a physical exam?

A. Yes.

Q. Were you given any tests?

A. Yes, I was.

Q. What type of tests were you given, do you recall?

A. Yes, I had another test where you breathe into a tube, it measures the capacity of your lungs. Various blood tests, urine tests, stool tests, chest x-rays.

Q. How long were you at the Mount Sinai Clinic?

[741]

A. It must have been almost seven hours altogether.

Q. Did Dr. Herbert discuss her findings with you?

A. Yes, she did.

Q. What was your understanding as to the effect of the asbestos exposure on you at that point?

A. With the history I gave her of my past medical history and the amount of asbestos I explained to her that I was working around on a daily basis, she said that I had a --

MR. LANDMAN: Objection; hearsay, your Honor.

Q. The question was, what was your understanding, Mr. Buckley?

A. That is what I am saying.

THE COURT: I will allow it.

MR. LANDMAN: He is telling us what she told him.

THE COURT: Yes, but how else can we find out what his reaction was?

MR. LANDMAN: Your Honor, if I can make one suggestion: it is coming in solely for his reaction and not for the truth of what she said.

THE COURT: Yes. We can't cross-examine her. But he heard it and he reacted.

A. That I had an increased risk of coming down with asbestos-related disease.

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Q. Did that come as surprise to you at that point?

A. At that point, no.

Q. What effect did that have on you, learning that from her?

A. Learning from somebody that actually is an expert in the field scared me; it made me worry a little bit more than I was already worried.

Q. Did Metro-North pay for the test and exams at Mount Sinai?

A. No, they did not.

Q. Did you return to Mount Sinai Occupational Clinic?

A. Yes, I did.

Q. And do you recall the month and the year?

A. It was in 1994. I think it was February 1994.

Q. Did a medical doctor examine you on that occasion?

A. Yes.

Q. What was his name?

A. Dr. Markowitz.

Q. Did you give him your medical history?

A. Yes, I did.

A. Yes, I did.

Q. Occupational history?

A. Yes, I did.

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Q. Did you undergo any tests?

A. Yes.

Q. What tests?

A. Same series of tests I just explained with the previous doctor.

BY MR. GOETSCH:

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Q. On that occasion, were you interviewed by another doctor at Mount Sinai?

A. Yes.

Q. What was his name?

A. Dr. Nicholson.

Q. Did you tell him about your exposure to asbestos at Grand Central?

A. Yes, I did.

Q. Did Dr. Markowitz discuss his findings with you?

A. Yes.

Q. Did you discuss whether you have any particular increased risk of developing asbestos-related disease?

A. Yes.

Q. What is your current understanding, Mr. Buckley, as to whether you have a significant increased risk of developing asbestos-related disease?

A. Yes. I am in a high risk.

Q. What diseases are you at risk for; as far as you know?

A. I explained, mesothelioma, asbestosis and there is various other lung-related diseases. There is a type of, I think it is a stomach one or colon that can develop from it.

Q. What is your understanding as to the amount of

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this significant increased risk that you are now at, Mr. Buckley?

A. Could you rephrase the question? I didn't understand it.

Q. Do you have any current understanding as to any quantitative amount of increased risk that you are currently at?

A. I don't know the figures exactly, but I think it -- he said I have a 5 percent increased risk, 5 to 8 percent increased risk.

Q. Mr. Buckley, when you were first hired by Metro-North in 1985 were you given a physical exam?

A. Yes, I was.

Q. At that time did you indicate how much you smoked?

A. Yes, I believe I did.

Q. What was your indication at that time?

A. Maybe a half pack a day, a pack a day.

Q. In the years following that exam in 1985, what was the rate of your smoking? Did it increase or decrease?

A. It usually decreases. I go through periods. I will smoke and then maybe years go by where I won't smoke again. Sometimes I quit for maybe a year and I will go back again. I usually average a cigarette or two a day.

Q. In October of 1989 when Metro-North sent you for

[746]

the asbestos test at Grand Central Terminal, did you fill out a questionnaire on that occasion?

A. Yes, I did.

Q. Was there any question about smoking on that questionnaire?

A. I believe there was.

Q. What was the question that you responded to in that questionnaire?

A. They ask you about your -- about smoking habits?

Q. Yes.

A. There was one there that asked you, if you smoked, and they said, if you smoke less than one cigarette a day, the rest of the answer did not pertain to you.

Q. What did you indicate at that time on the questionnaire?

A. That I wasn't a smoker because they said if it was less than one a day or for a certain period of time that they didn't consider you being a smoker, you didn't have to answer the questions or it didn't pertain to you.

Q. Was that the case at that point in time?

A. Yes.

Q. When you went to Mount Sinai and saw Dr. Herbert, were you asked about your smoking history then?

A. Yes.

Q. What were you asked about your smoking history?

[747]

A. Dr. Herbert asked me how long I was smoking for. At the time I was smoking since I was 17 years old.

Q. What did you indicate was your lifetime smoking history?

A. I told her it varied from a half a pack a day to a pack a week.

Q. Did you fill out another medical questionnaire at the Metro-North medical department in late 1990?

A. It is possible, yes.

Q. Do you recall whether there was any question about smoking on that questionnaire?

A. They all had it.

Q. What did you indicate on that questionnaire?

A. What year was this?

Q. Late 1990.

A. That I was smoking less than a cigarette a day, I believe.

Q. Thereafter, after 1990, did you stop smoking completely for a period of time?

A. Yes, for a while, yes.

Q. When did you, after 1990, stop smoking completely?

A. After 1990?

Q. Yes.

A. When did I stop?

[748]

Q. Yes.

A. I think it was 1991 that I stopped.

Q. When you saw Dr. Markowitz in February 1994, what did you indicate to him about your smoking?

A. That I had stopped but I would smoke occasionally; I would sneak a cigarette now and again.

Q. Since February of 1994 when you saw Markowitz, up to the present time, did anything occur regarding your smoking habits?

A. Yes. I had just about it kicked altogether, the habit, and when my wife was in the hospital giving birth to my son, she was in extensive labor. We went there on a Friday night, about midnight, and we were there all night until the next day and about 1:00 in the afternoon they decided to do an emergency C section on her. They asked me to leave the room while they gave her an epidural.

They told me to go outside and get air. I sat there talking to the one of the nurses I met in the hospital and she had a cigarette and I asked her if I could have one.

Q. Did you smoke a cigarette on that day?

A. Yes, I did.

Q. Since that day up to the present time what has been your smoking rate?

A. I smoke an average of a cigarette a day, some days I will have more. Some days I will go without

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cigarettes. Sometimes I will have three or four cigarettes.

Q. On average, how much do you smoke?

A. On average, maybe a cigarette or less a day.

Q. Why do you smoke at the present time?

A. I feel if I have a cigarette or two, it relieves the nicotine crave I have.

Q. Do you have any plans about smoking in the future?

A. I would like to stop, yes.

Q. Do you feel that Metro-North is responsible for your cigarette smoking?

A. No. Whatever I am doing with cigarettes is my own responsibility. I accept that responsibility.

Q. Mr. Buckley, what is it like living with the knowledge that you have any increased risk of dying from cancer due to your asbestos exposure at Grand Central?

A. It scares me.

Q. What happens nowadays when you get a pain in the chest, for example?

A. Worry about it. You worry a little more. It scares you a little more.

Q. How do you feel about your asbestos exposure when you read about asbestos in the newspapers?

A. It bothers me. There is a lot of it in the paper today about asbestos exposure. It is all over the place. You just get tired of looking at it. It is on TV. It gets you upset.

You hear people talking about it that don't know anything about it. People at work talk about it all the time. You just don't want to hear it. You are just tired of it.

Q. What happens when a news story comes on TV about asbestos and you are watching it at home?

A. I will watch it for a while and then turn it off. It upsets me. I don't want to think about it and it upsets me, more so now that I have a family. I am just a little worried now. Am I going to be alive to see my son go to school? That bothers me more. Before it scared me but now that I am a father, it scares me even more. I want to be with my family more.

Q. As an emergency medical technician, Mr. Buckley, have you ever dealt with cancer patients?

A. Yes, on a daily basis. I work for an ambulance company besides working for Metro-North and we do a lot of work for nursing homes and we take care of a lot of elderly people.

Q. Is that a part time job that you have?

A. Yes. It is only part time.

Q. How does it make you feel to deal with cancer patients?

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A. Sad. I feel very bad for the people.

Q. How does that make you feel?

A. I look at myself.

Q. Do you have any understanding as to whether there is anything you can do medically to remove the asbestos fibers from your lungs?

A. No. There is no medical treatment for asbestosis.

Q. Are you willing to undergo periodic medical monitoring in the future with regard to asbestos disease?

A. Yes. Actually we are supposed to go every year. There is an OSHA physical that is supposed to be given every year by law, and I haven't been for one in over four years. Metro-North has not sent me even though they are obligated by law to send me.

MR. LANDMAN: Move to strike. It is not responsive, your Honor.

THE COURT: I don't think it was responsive. Strike it.

MR. GOETSCH: That is fine.

Q. Mr. Buckley, have you ever gone to a psychiatrist regarding your asbestos exposure?

A. No, sir.

Q. Why not?

A. What is a psychiatrist going to do for me? What

[752]

is he going to tell me? I am not going to die? Is he going to tell me not to worry about it?

Q. Have you asked for any prescription drugs as a result of your asbestos exposure?

A. No.

Q. Why not?

A. What are drugs going to do for me? They are not going to take the asbestos away.

Q. Do you consider that your worry about asbestos is abnormal or normal?

A. If it is normal for me to worry?

Q. Yes.

A. of course, it is normal.

Q. Do you now believe, Mr. Buckley, that your exposure to asbestos at Grand Central could have been avoided?

A. Yes, very easily.

Q. How so?

MR. LANDMAN: Objection; it is irrelevant.

THE COURT: Yes, sustained.

Q. During the late 1980s, Mr. Buckley, did you ever wear asbestos-coated clothing home to your family?

A. If I was in a hurry to get home and I just wanted to get out of work, yes. If we were working a later shift, we would just wear what we had on; we would just go home

[753]

with it.

Q. How does that make you feel?

MR. LANDMAN: Objection; relevance, your Honor.

THE COURT: That is allowed.

MR. LANDMAN: There is no loss of consortium here.

THE COURT: It is his feeling we are concerned with.

Q. How does that make you feel?

A. I not only take it to my family but when you ride on the subway you contaminate everybody on the subway. Maybe there is somebody out there that I contaminated.

Q. How does that make you feel knowing that?

A. It makes you feel pretty bad.

Q. How do you feel, Mr. Buckley, about the fact that Metro-North did not warn you that you were removing asbestos for a period of years?

MR. LANDMAN: Objection.

THE WITNESS: I think it is criminal.

MR. LANDMAN: I think your Honor ruled on this.

THE COURT: I think he already testified to that.

Q. What was your hourly rate of pay back in 1985 to 1988?

A. When I first started with Metro-North you work on a pay scale. You get an increase every five years. I was

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working at a 70 percent rate. It was maybe $10 an hour at that rate.

Q. Mr. Buckley, who do you feel is responsible for exposing you to asbestos from '85 to June 1988?

MR. LANDMAN: Objection, relevance.

THE WITNESS: Are you asking for one particular person or a group?

Q. I am asking you how you feel about who is responsible.

A. Who do I feel?

Q. Yes.

A. one person in particular would be Fred Palmer, he is the terminal superintendent, because he did have the last say on everything that did happen in the terminal.

If the people went to him and they told him about this, they brought it to his attention and he neglected anything, and the people under him were afraid of him. He told them what to do and they did it.

MR. LANDMAN: Move to strike. That is not responsive. It is not how he feels.

THE COURT: I will allow it.

Q. My question is, how do you feel?

A. He should be locked up because what he did to me was criminal; not only to me, but to everybody.

Q. Mr. Buckley, do you have any fears about your future now as a result of your asbestos exposure at Grand Central?

A. Yes, I do.

Q. How do you feel about your future?

A. I try not to think about my future but I am worried about it.

Q. What is it about the future that worries you?

A. Mostly not seeing my son grow up.

Q. Has your asbestos exposure had any effect on your relationship with your wife, Deidre?

A. A bit. We fight a little more especially now with this case going on.

Q. How does that make you feel?

A. It makes me mad at myself. I shouldn't lose my temper as much as I do.

Q. Has your asbestos exposure had an effect on how you relate to your son at the present time, Mr. Buckley?

A. I try to protect him a little more, watch everything he does and when he is around.

Q. Why is that?

A. I try to make sure nothing is going to happen to him.

Q. What effect has your asbestos exposure at Grand Central had on your peace of mind, Mr. Buckley?

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A. There is not really much peace of mind, especially when you have to think about what is going to happen. I should say, what could happen to me.

Q. Are there times when you feel any anger or bitterness about what has happened to you?

A. Yes.

Q. What times are those?

A. When I am at work mostly, when I think about what was done and what could have prevented -- what could have prevented this.

Q. How has your asbestos exposure affected your enjoyment of work at Metro-North?

A. There is no -- not much enjoyment anymore. I used to enjoy going to work. I used to enjoy working. Now I can't wait to get out of there at the end of the day.

Q. What is your feeling as to the worst thing about your exposure to asbestos at Grand Central, Mr. Buckley?

A. That it could have been so easily prevented with a little bit of training in the beginning and a little personal protective equipment.

Q. Why did you bring this lawsuit, Mr. Buckley?

A. I wanted to make sure Metro-North be held accountable for what their people did to me.

MR. GOETSCH: Your Honor, at this time I would like to read the jury one of the admitted facts on Exhibit

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001.

"According to the United States National Center, for Health Statistics, vital statistics of the United States, annual, the life expectancy of a white

male person 39 years of age is 36.5 years."

MR. GOETSCH: No further questions at this time, your Honor.

THE COURT: Do you want to start now or

MR. LANDMAN: I am looking for a signal from the jury. Frankly, since the jury and everyone was so -- since it was a holiday, maybe we should just break a little earlier.

THE COURT: It seems to me it makes sense.

MR. LANDMAN: I would like to ask one question, though.

THE COURT: Okay.

CROSS-EXAMINATION BY MR. LANDMAN:

Q. Mr. Buckley, this letter that you say Mr. Palmer wrote, and I think your words were, "I don't care what you say, you just got to go in there and do it," I assume that really bothered you a lot, right?

A. Did it bother me?

Q. Yes.

A. It made me mad; yes, sir.

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Q. I assume you kept a copy, right?

A. No, sir.

Q. You didn't?

A. I can produce a copy.

Q. Why don't you do that for us tomorrow?

A. You got it.

MR. LANDMAN: Thank you.

THE COURT: Okay. Tomorrow being Tuesday, 10:00. (The jury leaves the courtroom)

THE COURT: Does anyone have anything?

MR. LANDMAN: In terms of scheduling, your Honor, with the court's permission, because we have experts coming in from all over and because, I think, that there is going to be a fair amount of argument on the motion, would it be all right if, after the plaintiff rests tomorrow, if we didn't call any witnesses tomorrow afternoon; we could spend the time arguing the motion?

If the court thinks that is too much time we could work on jury charges and start our case on Wednesday?

THE COURT: I guess that makes sense.

MR. LANDMAN: I think there is going to be a fair amount of argument and I will have a memo of law for you tomorrow. I would like for you to have time to read it and think about it before we go forward because, boy, this is -I won't get into the argument now, especially in light of

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the fact that in this case both sides had stipulated after the 1990 ruling that this case should be 1292(b) certified, and the court, I think, rightfully, said, we ought to develop the record more.

I think this record is fully developed now. I am not sure there is a particular need to go much beyond what we have here. It is a ruling that is going to affect this case and another 140 cases. I think we will need a court ruling no matter what this jury does but I will certainly address that in more detail.

THE COURT: When did you think you will finish tomorrow?

MR. GOETSCH: After his cross, I have some exhibits that we are going to try to narrow our differences regarding and we may need some rulings on it, Judge, regarding

exhibits that we can't agree on, but, beyond that, your Honor, that is basically it.

MR. LANDMAN: I thought you were going to show a movie.

MR. GOETSCH: If Mr. Wasserman can get a video monitor, they produced a copy of a short video, one of the videos that was shown to him. I would like to show it. It is 15 minutes.

THE COURT: It looks as though you will finish by lunchtime.

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MR. LANDMAN: He will be a while on cross. My guess is we will try and then the jury could have the afternoon off and we could argue the motion. All I wanted to make sure is that I don't have to have witnesses here tomorrow.

THE COURT: No. I think that is all right.

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CROSS-EXAMINATION CONTINUED BY MR. LANDMAN:

Q. Good morning, Mr. Buckley.

A. Good morning, sir.

Q. Now, yesterday you were testifying about a letter that you claim Mr. Palmer wrote to you, is that right?

A. Well, to me, to us as people who were working in the area when we objected to the situation we were working in.

Q. And you brought in that letter, is that right?

A. Yes, sir, I did.

Q. I show you that letter which has been marked for identification, I guess, as Plaintiff's Exhibit 2. First of all, that letter is not written to you, is it?

A. No, it is written to my --

Q. No, the question is, is it written to you?

A. It's written to my sheet metal worker international --

THE COURT: Answer yes or no.

A. Yes, sir.

THE COURT: You have heard all about our tribal custom. Is it written to you? Answer: No -- if that is true. I haven't seen it.

THE WITNESS: No, sir.

Q. And you stated yesterday, Mr. Buckley, that the letter states, from Mr. Palmer, that you are licensed to

remove asbestos. Does that letter state that? Yes or no.

A. No, sir, it does not.

Q. And this is the letter you are referring to when you testified yesterday: the letter to us stating it's your job to remove asbestos, you are licensed now, so do it. Does that letter say anything about licensing?

A. No, it does not, sir.

Q. Do you have another letter other than this letter that suggests that?

A. No, sir.

Q. Thank you. Now, let's talk about smoking.

A. All right.

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Q. You knew when you started to smoke that you could develop cancer from smoking, didn't you?

A. Not at age 17, no, sir, I didn't.

Q. When did you find it out?

A. Later on.

Q. When?

A. Oh, I can't remember exactly when, sir.

Q. How old were you?

A. Maybe in my 20s.

Q. In the 1960s they started putting warnings on cigarettes, isn't that right?

A. Possibly, yes. I am not sure.

Q. You were 17 in 1971, isn't that right?

A. Yes.

Q. So when you were buying cigarettes you would agree with me that they had warnings on it that said: If you smoke these cigarettes, you may get lung cancer. Didn't they?

A. They could have, yes.

Q. Do you remember reading that?

A. No, sir.

Q. Do you remember seeing billboards with advertisements about cigarettes that said back in the '70s: If you smoke these, you may get cancer?

A. No, I do not.

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Q. You don't remember that?

A. No, later on in the '80s, probably, but not in the early '70s, no, sir.

Q. But eventually you learned that you can get cancer from smoking?

A. Yes.

Q. And you just kept smoking, didn't you?

A. Yes, I did.

Q. And you smoked for many years?

A. Yes, I did.

Q. And sometimes you smoked a pack a day and sometimes less, is that right?

A. Yes, sir.

Q. And sometimes in fact you smoked more than a pack a day?

A. Possibly, yes.

Q. You continued to smoke even though you read these warning labels on the cigarettes, didn't you?

A. Yes, sir.

Q. At your deposition, which was taken, just for time period, on April 12, 1994, you testified under oath you did not smoke. Isn't that right?

A. Correct, sir.

Q. And you claimed in your deposition you had stopped smoking in 1991?

[770]

A. Correct, sir.

Q. And there was no testimony in there at all about "I smoke one cigarette a day, I smoke 3 cigarettes a day," or anything like that?

THE COURT: You can't ask him that question if you didn't ask him a question that should have produced that answer.

Q. You claimed in your deposition that you stopped smoking because of the risk of cancer, isn't that right?

A. Yes, sir.

Q. When was your son born?

A. May 21.

Q. Of this year -- 1994?

A. 1994.

Q. And you claim -- I just want to make sure I understand your testimony -- that from 1991 until May 21, 1994, you didn't have any cigarettes?

A. If you heard me yesterday, I said that I was sneaking cigarettes now and then.

Q. Well --

A. I did state that yesterday, sir.

Q. But at your deposition you stated that you stopped smoking in 1991?

A. Well, because when I was talking to Dr. Markowitz, he said if you smoke a cigarette occasionally,

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it's considered not smoking. And he did state that on the stand himself.

Q. But when you gave your answer in your deposition, you didn't explain that, did you?

A. I wasn't asked that.

Q. On page 43, line 10 -- now, Mr. Buckley, you remember being under oath in this deposition; right?

A. Yes, I do, sir.

Q. On page 43, line 10:

"Q. As a matter of fact, you continue to smoke up to the present time?

"A. No, I do not smoke, sir.

"Q. When did you stop?

"A. My wife and myself both quit at the same time in 1991 when my wife decided she wanted to get pregnant.

"Q. Are you saying you haven't smoked since 1991?

"A. Yes, sir."

Those were your answers then, right?

A. Yes, it was, sir.

Q. And you are telling us now that those answers were not true?

A. The statement I made, the way I felt, was not true because I was told that if I smoke an occasional

[772]

cigarette it is not considered smoking. I was told that by a doctor.

Q. Who?

A. Dr. Markowitz. He stated that on the stand here himself.

Q. But when did he tell you that?

A. 1994.

Q. When?

A. February.

Q. He told you that your smoking one to three cigarettes a day, that is not smoking?

A. Yes.

Q. In his report, you heard him testify that it was his understanding you were not smoking at all and he had no notation whatsoever that you were smoking one to three cigarettes a day?

A. But he did state that he thinks he remembers me saying that I do smoke occasionally, and he did state that it is not considered harmful.

Q. Let me ask you this: When Dr. Markowitz asked you whether you smoked, did you give him the same answer that you gave the lawyer for Metro-North when you gave your deposition?

A. I told him that I had stopped smoking, and I also told him that occasionally I will have a cigarette.

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Q. And you told him you smoke one to three cigarettes a day?

A. Yes, I did.

Q. When you have these one to three, in that same rate you are smoking now, is that right?

A. Approximately, yes, sir.

Q. One to three.

A. Yes.

Q. When do you have these one to three cigarettes a day?

A. Whenever I feel like having it. If I feel like I want to have --

Q. Generally, tell me what time a day.

A. I don't know. Whenever I feel like having one, sir.

Q. In the evening?

A. Possibly. Sometimes in the morning, sometimes in the afternoon.

Q. What time in the morning?

A. Whenever the time I feel like having one, sir.

Q. First thing when you get up in the morning?

A. No. If I was going to have a cigarette, it wouldn't be until I left my house.

Q. What time of day was that, usually?

A. Usually? About 6 o'clock, 6:30.

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Q. Do you sometimes have a cigarette at 6 in the morning?

A. If I feel I need one, yes.

Q. Do you ever go to a coffee shop in the morning?

A. Yes, I do.

Q. And you have your breakfast there?

A. I don't have breakfast. I have coffee and --

Q. And when you go there, sometimes you buy cigarettes, don't you?

A. If I need it, if I need a pack of cigarettes, yes.

Q. In 1994, you have done that a couple of times, haven't you?

A. Yes, I have.

Q. And the name of the coffee shop --

A. The Last Stop.

Q. is The Last Stop Gourmet, isn't that right?

A. Exactly.

Q. And you buy Marlboros there, don't you?

A. Yes, I do.

Q. And right on those Marlboros it says you can get cancer if you smoke those cigarettes, doesn't it?

A. Yes, it does.

Q. Typically you go there in the morning, around 6 in the morning or so, 6:14, and you have a cigarette while

[775]

you are eating your breakfast?

A. No, not all the time, sir, because when your people do follow me, I don't always take the A train.

Q. Right. You knew that people were following you?

A. Oh, yes, without a doubt. I confronted your people many times when they were following me.

Q. But you didn't find that out until after your deposition, isn't that right?

A. No, I always had a feeling I was being followed. I expressed my concern to my attorney about it.

Q. So between the time of your deposition and now, you had to come up with some explanation for the fact that we had pictures of you smoking; right?

A. No, sir.

MR. GOETSCH: Objection, your Honor.

Q. So you got together with Mr. Goetsch and you came up with this one to three cigarettes a day, isn't that right?

A. That is not true.

Q. It is not? When did you tell Mr. Goetsch that you smoked?

A. When did I tell him?

Q. Yes.

A. Right after I made my deposition.

Q. And you were sent this deposition and you had the chance to make changes, weren't you?

A. Yes.

Q. You didn't change this answer, did you?

A. No, sir, because I --

Q. And Mr. Goetsch didn't advise you to change it, did he?

A. No, he didn't, because the fact that I don't feel that smoking one or two cigarettes a day has that much effect on it.

MR. LANDMAN: Move to strike as not responsive, your Honor.

THE COURT: I will allow it.

A. If I was so concerned about you people following me and taking pictures of me, I wouldn't have been smoking in front of them. But I knew they were following me. They would wait outside my house every day. I knew it.

Q. And you knew they were taking pictures of you buying cigarette packs?

A. They were following me, sir. I knew they were taking pictures of me. I knew they weren't following me just because they liked the way I looked.

Q. And sometimes you would smoke in the evening when you were out?

A. If I want to, yes.

Q. No, not if you want to. Do you? Yes or no.

[777]

A. If I want to.

Q. Do you? Yes or no.

THE COURT: He is suggesting that you are forced to smoke.

THE WITNESS: I know I am not forced. I smoke on my own. If I go out eating, if I feel like having a cigarette, I will have a cigarette, yes, sir.

Q. Not if you feel like. The question is, Mr. Buckley, do you smoke in the evening? Yes or no.

A. Not every evening, no, sir.

Q. Do you smoke in the evening? Yes or no.

A. Not every evening. Not every evening means not every evening, but some evenings, yes.

Q. And on the weekends you smoke sometimes when you are out, don't you?

A. Occasionally, yes.

Q. How often on the weekend?

A. I don't keep count, sir, but I am sure you can tell me.

Q. Mr. Buckley, you are on the fire brigade, isn't that right?

A. Yes, I am, sir.

Q. And you bum cigarettes from some of the guys on the fire brigade, don't you?

A. Occasionally, yes.

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Q. Like every time you get together with them?

A. No, that is not true.

Q. How often?

A. Well, we get together once a month, sir, for a meeting. That's when we have our meet.

Q. And you bum cigarettes from them?

A. Yes, if I feel like having a cigarette during the meeting, yes.

Q. Mr. Buckley, sometimes you smoke a cigarette while you are waiting for the bus, right?

A. You know that.

Q. Yes or no.

A. Yes. I am not denying I smoke, sir.

Q. Mr. Buckley, if we hadn't gone out and gotten these pictures after your deposition, you wouldn't have denied you smoke, would you?

A. No, sir.

Q. But unfortunately our investigator got caught by you, isn't that right?

A. Well, the investigator wasn't that good. You should spend more money on a better investigator. He was pretty sloppy.

Q. I guess that's right.

A. Yes, sir.

Q. Some days you actually smoke more than 3

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cigarettes a day, don't you?

A. Yes, again, but if your investigator was truthful he would tell you that there are days when I don't smoke. Maybe those are the days you don't have

pictures of me smoking. Maybe three or four days go by when I don't have cigarettes.

Q. And some days you smoke six or seven cigarettes a day?

A. No, I wouldn't say that. Maybe. It's possible.

Q. Yes or no.

A. It's possible. I can't say yes, I can't say no. It's possible.

Q. Your wife is going in for a C section, you are told to come outside because she was going to get an epidural, and you --

A. I wasn't told to go outside. I was told to leave the hospital, go get air. Nobody said, go outside to me.

Q. During the C section surgery they told you just leave the whole building?

A. They told me to go out and get air. I was in the building for almost 19 hours straight.

Q. And you go out and you run into this nurse?

A. Yes.

Q. And she was smoking a cigarette and what do you say to her?

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A. I asked her if I could have one.

Q. And then all of a sudden you just started smoking again?

A. No, that was a pickup from her. I started smoking one.

Q. You told us when your son was born -- when you testified you may have made some reference to this yesterday -- that because of your fear of your cancer and what's going to happen, that you are very overprotective of your son and you really are careful with him. This son you are talking about is nine months old?

A. Eight months old.

Q. Don't you think it is a good idea to sort of be a little protective of an eight-month-old baby? I mean, what is it you want him to do, go out on the street corner and deliver newspapers?

A. I didn't say that, sir. I am just more careful about things he does.

Q. Like what? Give me one example.

A. Like picking things off the floor. I am more cautious, that he can't put something in his mouth.

Q. You don't let him eat paint chips?

A. I try not to.

Q. And before this all happened in Metro-North, you let him sit down in a corner and pick up some paint chips

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and eat them, is that right?

A. No. As I said, I go out of my way to make sure that he is safe. I take extra precaution.

Q. And you think that is a bad thing for an eight-month-old?

A. Oh, no, it is a good thing.

Q. So you don't think that is something Metro-North caused you to do?

A. No, sir, but maybe I was a little more protective, a little more aware of things, hazards.

Q. But you agree it was good, then?

A. Of course. Wouldn't you?

Q. Mr. Buckley, the Marlboros that you spoke, do they have filters?

A. Yes, they do.

Q. And have you always smoked Marlboros?

A. Sometimes I would smoke a Parliament.

Q. You bum cigarettes from Bob Hennesey, don't you?

A. Yes, I do.

Q. Every time you see him at one of these fire meetings, you say, "Bob, do you have a cigarette?"

A. Once a month, yes.

Q. Do you ever give him a cigarette?

A. If I have one.

Q. And sometimes you bum up to three, four

[782]

cigarettes from him at a meeting, don't you?

A. No, sir. The meetings are only fifteen minutes long.

Q. How many cigarettes do you bum from him at the time that you see him?

A. Maybe one.

Q. Sometimes two?

A. Possibly.

Q. And what time of day do these meetings occur?

A. Usually about 3 o'clock in the afternoon.

Q. Now, when you went to -- you went to a Dr. Robert Sorgenti in Howard Beach, didn't you?

A. Correct. No, not recently. Last year.

Q. March 24?

A. March? Yes.

Q. And he is your personal physician?

A. No, he is not my personal physician.

Q. Why did you go to him?

A. Because with our insurance plan, we had an HMO, we had to pick a doctor in our area, and he was the closest doctor serving our area that came under my HMO plan.

Q. What was the purpose of going to him?

A. I wanted to have chest x-rays done.

Q. And you did get a chest x-ray?

A. Yes, I did.

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Q. And the chest x-ray was negative?

A. Yes, it was.

Q. That was done by a Dr. Philip Carver?

A. Yes, it was.

Q. And your medical insurance paid for it?

A. Yes. But I still have the money that comes out -- I know I paid for it because I paid for my own insurance. HMO comes out of my pocket. I pay.

Q. Right. When you go there, the chest x-ray and the exam were covered by your HMO? Yes or no.

A. Yes, but I paid for my HMO. It is not given to me by Metro-North. I pay a monthly fee to HMO so it was out of my pocket.

Q. Are you saying that Metro-North doesn't contribute anything toward your medical coverage?

A. Of course they do but I also pay.

Q. They contribute and you contribute?

A. Yes.

Q. And pay your fringe benefits on the job?

A. Yes.

Q. When you went to see Dr. Sorgenti, you told him that you had been a former smoker and you used to smoke one pack a day for seven years, didn't you?

A. I possibly could have said that, yes.

Q. And that you stopped in 1991.

[784]

A. Right.

Q. And I guess that's because, the same thing with the Dr. Markowitz rule, if you smoke one to three cigarettes or maybe five or six, it is not really smoking?

A. That's right.

Q. Why did you pick seven years to tell him?

A. Because at the time that was just a number, you know, I said seven years, one pack a day. I was giving him an average.

Q. 1994 you told Dr. Markowitz -- I am sorry -- Dr. Herbert back in 1994 that you had been smoking for about 20 years?

A. Exactly.

Q. One pack a day or less or more. Now you go and you see a doctor in 1994 and you change it now to seven years. Was that because you thought we would end up getting these records?

A. No, sir, because I knew you were going to get records, so if I was going to do that, why would I lie on that? I knew you were going to obtain all my medical records and I know what was on everything else.

Q. You actually didn't know I was going to obtain all your medical records, did you, because this was March 24, 1994, your deposition was April 1994, and we asked you, did you have a regular doctor you went to, and you said no,

[785]

didn't you?

A. Exactly, well, I told --

Q. We asked you any doctors you went to and you didn't give us any names, so how did you think we would get those records?

A. Through HMO records.

Q. When the Metro-North lawyer asked you if you had gone to a regular doctor, why did you say no when you went to a doctor three weeks before?

A. Because it is not my regular doctor. They said, "Do you have a regular doctor?" and, like, I explained to you, I said no. You can check the records how many times I have been to him: one time.

Q. You told us that you get upset when you read about asbestos in the newspaper.

A. Yes, sir.

Q. And when you see it on TV.

A. Yes.

Q. And that is because it talks about cancer and all these terrible things, right?

A. Yes.

Q. And there is no question cancer is a terrible thing, right? Yes or no.

A. Yes, sir.

Q. There is a lot in the newspaper about cancer,

[786]

isn't there?

A. Yes, there is.

Q. There is a lot on TV about cancer?

A. Yes, there is.

Q. About diet, what you eat and things like that?

A. Yes.

Q. But probably the most that is in the newspaper and on TV is about the danger of smoking and cancer?

A. Correct.

Q. Does that upset you when you see that?

A. Yes, it does.

Q. How upset does it make you?

A. Very upset, knowing that I am addicted to a substance that is hard to kick.

Q. You are addicted to it but you control it to one a day.

A. Yes.

Q. Does reading about smoking and cancer make you more or less upset than reading about asbestos and cancer in the newspaper?

A. I try not to read about it.

Q. Which makes you more upset when you see it?

A. About equal.

Q. you are riding on a subway, you see an article about doctors say 90 percent of lung cancer cases are due to

[787]

smoking, and then you see an article that says, doctors say asbestos increases your risk of cancer. Which of those makes you more upset?

A. They are both the same.

Q. In fact, Mr. Buckley, you have done no reading about asbestos-related diseases except when you went to that course Metro-North made you go to, isn't that right?

A. Correct.

Q. And the first time you did learn anything about this, you claim, is when you went to this course on August 31, 1987? Yes?

A. Excuse me?

Q. The first time you claim you learned about asbestos and what it does to you and that asbestos was present was when you went to this course on August 31, 1987?

A. When I found out the full effects of asbestos, yes.

Q. August 31, 1987?

A. Yes.

Q. Had you learned something about asbestos before?

A. Just by word of mouth of employees.

Q. In fact, you knew there was asbestos down there in 1986, right?

A. No.

Q. You didn't?

[788]

A. We had asked about it and they told us no, it wasn't asbestos, it was magnesium.

Q. You saw all this, that is in evidence, this big survey that was done in the steam tunnel where they took 300 samples. You didn't see them detail any of those samples in 1986?

A. But they didn't come up to me to discuss the findings with me, no.

Q. And ycu never bothered to ask them anything?

A. Yes, we did. I just said, they told us it was magnesium.

Q. This is what the outside consultant said?

A. No, that is what our foreman said.

Q. But there were outside consultants taking these samples?

A. Yes.

Q. In fact, you and some of your buddies went and walked around with them and told them where to take the samples, didn't you?

A. Not me, no.

Q. But some of your buddies?

A. Possibly my coworkers.

Q. You never discussed with them that these guys were in there looking for asbestos?

A. They never mentioned anything to me of asbestos.

[789]

When we asked them what they were doing, my foreman at the time told me they were taking samples, and later on we asked them what the samples were; they said it was magnesium.

Q. Isn't it true that in 1986 you learned of the potential hazards of asbestos? Yes or no.

A. No.

Q. Question on page 39, line 4:

"Q. Did there ever come a time when you were made aware of the potential hazards of asbestos?

"A Yes.

"Q When was that?

"A I guess maybe 1986.

"Q How were you made aware of the potential hazards of asbestos?

"A People started telling us that it causes cancer.

"Q What people were they?

"A People that were in the -- work in the other shops. They used -- because they used to refer to us as snowmen. We used to be covered head to toe in white from it. People say do you know that stuff is going to kill you. We say what do you mean. Say, well, asbestos causes cancer. Then we started asking other people and -- go ahead, I am sorry."

Was that testimony correct or not?

[790]

A. Yes, it was. If you listen to what you said -

MR. GOETSCH: Objection, your Honor.

THE COURT: Wait a minute, your lawyer is trying to object. What is your objection?

MR. GOETSCH: Objection as to the rule of completeness, your Honor, pages 39 and 40, it goes on to say that he asked his foreman --

THE COURT: Do you want to read on?

MR. LANDMAN: I will be happy to, sure.

"Q Go ahead.

"A No.

"Q Who did you ask?

"A Asked our foreman. And he would tell us, yes, but it's not asbestos you're working with.

"Q What foreman was that?

"A Kevin Leverage.

"Q. Did anybody else tell you it was not asbestos you were working with?

"A Yes.

"Q Who else?

"A Carl Pale. I think it was a supervisor or assistant supervisor at the time.

"Q. Anybody else?

"A. Just foreman and the basic supervisor."

MR. GOETSCH: Thank you, your Honor.

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"Q. When did you first become aware yourself that the insulation you were working with was asbestos?

"A. When they started testing it.

"Q. Can you tell me when this was?

"A. Maybe 1986, 1987."

MR. GOETSCH: Continue, please.

A. Do you see what it said, though. Maybe. It didn't say definite. It said maybe. 1986 or 1987. It didn't say yes.

MR. LANDMAN: I am happy to read more if Mr. Goetsch wants me.

"Q. What, if anything, did you do when you became aware of the fact that you were working with asbestos?

"A. Start complaining. We said that, you know, we want to know more about it.

"Q. Did you yourself do anything to find out more about it?

"A. I personally, no. I was just -- I just asked the foreman at the time if this -- please stop, you know, until we found out more about it. You know, stop removing it."

MR. GOETSCH: Thank you, your Honor.

"Q. Did you ever go to a doctor and ask him about asbestos?

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"A. No."

MR. GOETSCH: Please continue, then, on page 41, you went to the safety department.

MR. LANDMAN: I think this is redirect, but I will keep reading it if Mr. Goetsch -- it is up to your Honor.

THE COURT: I think probably you ought to read it on redirect.

MR. GOETSCH: Thank you.

Q. Now, in 1987 you did go to the school run by the asbestos company Envirosafe, is that right?

A. Yes, sir.

Q. At that class you saw a movie, isn't that right?

A. Yes, sir.

Q. And you also received a certificate or a piece of paper that states that you are now a competent person. Is that correct?

A. Yes. They considered me a competent person, yes.

Q. And stated that you had successfully completed the course for competent person training at the abatement safety training institute.

A. That's right.

Q. It didn't say anything that you are licensed to remove asbestos or anything, did it?

A. No.

[793]

Q. And part of that course, an hour and a half, was covering the types, characteristics, and limitations of respiratory problems, and respiratory protection, selection, and fitting of respirators, respirator maintenance and recordkeeping. Is that right?

A. Possible.

Q. And in this film that you saw about asbestos, and you mentioned about the two main types of cancer that were in there, I think you said asbestosis and mesothelioma; is that right?

A. Yes, sir.

Q. They also told you, didn't they, that your cancer risk goes up dramatically if you smoke, isn't that right?

A. Yes.

Q. Maybe as much as 90 times as much?

A. 90 times? I don't remember seeing 90 times. If it is, I am sure you have it.

Q. And they said one of the best ways to reduce the risk from asbestos exposure is to stop smoking?

A. That's correct.

Q. And that was in 1987?

A. That's correct. (continued on next page)

[794]

BY MR. LANDMAN:

Q. You just kept smoking in 1991 when you went on the Dr. Markowitz no smoking plan?

A. Well, I wouldn't say it was the Dr. Markowitz no smoking plan.

Q. Okay. You did keep smoking until 1991?

A. Yes, sir.

Q. It is at that point in time when you saw that film when you got upset; is that right?

A. Yes.

Q. That is when all of this started; your emotional trauma?

A. I guess the beginning of it, yes, sir.

Q. That is the beginning of it; is that right, Mr. Buckley?

A. That is what I said.

Q. You don't go to a doctor then for another three or four years?

A. Metro-North sent us for a physical.

Q. That was conducted by the nurse?

A. The nurse, yes.

Q. 1989?

A. Yes.

Q. They did a pulmonary function test and a chest x-ray and all of that was fine?

[795]

A. Correct.

Q. You didn't believe any of that because you didn't trust anyone at Metro-North?

A. Correct.

Q. You didn't like the nurse. They sent you outside for an x-ray?

A. I never said I didn't like the nurse. Did I say that?

Q. You didn't like the fact that the nurse was the one who administered this pulmonary function test?

A. Exactly. I didn't say I didn't like the nurse. You are putting words in my mouth.

Q. When you went to Dr. Markowitz, he didn't perform the pulmonary function test either, did he?

A. No, he didn't. He had a qualified technician do it.

Q. You never got any medical exam for that; you were comfortable with that until after you hired Mr. Goetsch, isn't that correct, yes or no?

A. Yes.

Q. Your explanation yesterday for why you went to Mr. Cahill in part was you wanted Mr. Cahill to make a recommendation to you for a doctor; is that right?

A. Yes.

Q. You picked Mr. Cahill out because you thought he

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had some sort of special expertise with respect to picking doctors or because he was a buddy -- his father was a buddy of your father's?

A. That's right.

Q. There is no M.D. after Mr. Cahill's name; is there?

A. Not that I know of, no.

Q. Isn't it a little unusual to go to a lawyer from New Haven, Connecticut to find out who is a good pulmonary doctor in New York City?

A. It was a recommendation -- I asked him for a recommendation.

Q. You went to a lawyer in New Haven, Connecticut to get a recommendation for a pulmonary doctor?

A. They came to me.

Q. Where does Mr. Cahill practice?

A. In Connecticut.

Q. Until you hired Mr. Cahill you never went to a doctor and asked him about asbestos, did you?

A. No.

Q. Other than looking at that OSHA manual that was given at the asbestos awareness class, you did no other kind of research to determine whether or not, in fact, this fear you now had was a reality, did you, until you got a lawyer; yes or no?

[797]

A. No. I had a concern about it.

Q. No. Listen to my question.

A. Go ahead.

Q. Other than looking at the manual that was given to you at that training class, and looking at the film, you did no other independent research to determine whether or not in fact this fear that you now had was or was not a reality; yes or no?

A. Possibly, yes.

Q. Possibly, yes?

A. Okay. Yes.

THE COURT: Of course, you answered a negative question. He meant, no, I did no other thing.

Q. Is that correct?

A. Yes.

Q. You have never gone to a doctor for any type of psychiatric treatment because of this emotional trauma?

A. No.

Q. You have never gone to a social worker?

A. No.

Q. You had never gone to a counselor to talk about this?

A. No.

Q. You have never been treated for this fear at all, basically?

[798]

A. No, sir.

Q. Is that correct?

A. Exactly.

Q. In fact, you heard Dr. Markowitz say that he doesn't think you have an emotional injury, didn't you, the other day?

A. What I believe he said was he didn't notice any psychological -- he didn't say he doesn't think or I don't have. He said, I do not believe I noticed.

Q. That is when he saw you in 1994; is that right?

A. Right.

Q. In fact, Mr. Buckley, you don't know of one pipefitter on the railroad in the period of time you have worked for the railroad who had either mesothelioma or asbestosis?

MR. GOETSCH: Objection.

THE WITNESS: No.

THE COURT: When a lawyer stands up, stop.

MR. GOETSCH: I objected to his question on the grounds of relevance.

MR. LANDMAN: The question is his fear.

MR. GOETSCH: About himself, your Honor, exactly.

MR. LANDMAN: Part of his fear would either be fueled or not fueled by the fact that either anyone who has ever worked for the railroad has ever come down with any of these diseases.

[799]

THE COURT: If he knows about it, yes.

Q. You don't know?

A. Because --

Q. You don't know one person, yes or no?

A. No.

Q. Mr. Buckley --

THE COURT: Again, you say, yes, I don't know one person.

Stop giving negative questions.

Q. Mr. Buckley, how many years have you worked for the railroad?

A. For Metro-North, ten years.

Q. No; for the railroads, I should say.

A. For the railroads?

Q. Yes.

A. Approximately, 22 years.

Q. You started 1973, right?

A. Exactly.

Q. Your dad worked for the railroad before you?

A. Yes, he did.

Q. How many years experience did he have with the railroad?

A. Possibly, 40.

Q. How long has he been retired?

[800]

A. Maybe eight years.

Q. He worked out of Grand Central, didn't he?

A. For a short period of time.

Q. Where else did he work out of?

A. He worked at Oak Point Yards; St. Ann Yards; Penn Station; New Haven, Connecticut; Stanford, Connecticut; New Rochelle; shall I continue?

Q. All of these places have pipefitters, don't they?

A. Possibly, yes.

Q. You have never checked, at least prior to your deposition, to see what the incidence of contracting asbestos-related diseases was among railroad workers; isn't that correct; you have never done any checking about that?

A. No, but have you?

MR. LANDMAN: Your Honor, move to strike as nonresponsive.

THE WITNESS: I am asking you. Maybe you can enlighten me on the subject.

THE COURT: You are not here to be enlightened.

THE WITNESS: I never did a survey; no, sir.

Q. Your friends in the back think this is funny, right?

MR. GOETSCH: Objection.

THE WITNESS: I don't know. They are not my friends. The are my co-workers.

[801]

Q. Okay. You said that?

A. And your people over there seem to think it is funny too because they are laughing also. Are they your friends or co-workers?

Q. Mr. Buckley, you said that the risk of getting cancer, you were told by Dr. Markowitz, was 5 to 8 percent greater than if you had --

A. That is a mistake. I know he said up to 5 percent.

Q. When you told this jury 5 to 8 percent, that was a mistake?

A. I am correcting myself now.

Q. When you heard Dr. Markowitz testify here he thought the risk was between 1 and 3 percent?

A. Possibly. He probably --

Q. Which is it?

A. I don't remember him saying that but if you say he did, I am going to have to take your word for it.

Q. What I want to know is what is your recollection sitting here now as to what he told you your increased risk is?

A. Up to 5 percent. I am almost positive he said that. I am sure you can correct me on that.

Q. Mr. Buckley, you don't know what that means because you don't know what other people's risk is, do you?

[802]

A. No, sir.

Q. In other words, you don't know whether 1 to 5 percent higher means 1 in 1 million or 1 in 20 million or any of that, do you?

A. No, sir. I just know it is a higher risk.

Q. You never bothered to determine what the risk is actually in terms of how many pipefitters ever have gotten asbestos-related diseases, have you?

A. I have never asked, no.

Q. You never bothered to determine how many pipefitters who only had exposure from two to three years ever got asbestos-related diseases, did you?

A. No, sir.

Q. Just so it is clear, not only did you go to a lawyer before you went to any doctor, you actually had become a plaintiff in this lawsuit in 1989; isn't that right?

MR. GOETSCH: Objection, your Honor.

THE COURT: That is not correct.

MR. GOETSCH: That is not correct.

Q. I am sorry, February 1990.

A. Yes, sir.

Q. The first person who was lead plaintiff was Mr. Giabobo?

A. Giammona.

[803]

Q. For some reason, he dropped out?

A. I believe so, yes.

Q. The next person who was a lead plaintiff was your friend Larry Brown, is that right?

A. Not my friend.

Q. Your co-worker?

A. Co-worker.

Q. He has dropped out too?

A. Yes. He has left the railroad.

Q. He fired Mr. Goetsch; is that right?

A. That, I don't know.

Q. Does Mr. Goetsch?

A. Is that not a client, what do you call, lawyer privilege?

Q. The next person who was supposed to be the lead plaintiff was a Mr. Nelson; isn't that right?

A. That's correct.

Q. He has dropped out now?

A. Yes.

Q. You are the next one on the list?

A. Apparently, yes.

Q. There is another 140 coming down the road; isn't that right?

A. Possibly.

Q. What I want to talk to you about is who is the

[804]

first one that went to Mr. Goetsch or Mr. Cahill or any of the lawyers up in New Haven?

A. I have no idea.

Q. Let me ask you this. When is the first time you met with Mr. Goetsch or Mr. Cahill?

A. I don't remember. It was possibly 1989, 1990, the first time I met him.

Q. At the time met with them, did they tell you they had already filed a lawsuit on behalf of other Metro-North employees?

A. I believe they did.

Q. So, you didn't get their name, though, from any of these co-workers?

A. No, I did not.

Q. You got it from your father?

A. Yes, sir.

Q. You would go to meet with Mr. Cahill at the Howard Johnson's; is that a hotel?

A. It is a restaurant. It used to be across the street from Grand Central.

Q. You sat in the coffee shop and talked to him about this?

A. For a few minutes, yes.

Q. Why don't you tell me what you said to him about your fear at that time?

[805]

A. What I told him about my fear at the time?

Q. Yes.

A. I don't remember offhand exactly but I know I expressed my concern about contracting some type of illness.

Q. This was in 1989?

A. I think it was 1990. I am not sure of the date exactly.

Q. What did he say to you?

A. He told me, would you like to see a doctor.

Q. Did he give you the name of the doctor at that time?

A. Not at that time, no.

Q. How long did it take him to get back to you?

A. I don't remember.

Q. A month?

A. I think it was longer than that.

Q. A couple of months?

A. Possibly.

Q. Was it up to three months?

A. I don't remember. I don't recall.

Q. You think it was a couple months?

A. Possibly.

Q. So I take it that Mr. Cahill didn't think this was a major concern where you were losing sleep or anything like that since it took him a couple months to get back to you.

[806]

MR. GOETSCH: Objection.

THE COURT: It is not his concern.

Q. Other than going to see these doctors on two different occasions at Mount Sinai you haven't done anything medically with respect to this concern you have, have you?

A. Going and seeing other doctors.

Q. Yes.

A. No, sir.

Q. Every time you went for any physical, whether it was related to asbestos or not, including at Mount Sinai, your chest x-rays have always been normal?

A. Yes.

Q. Your pulmonary function tests have always been normal?

A. Yes.

Q. You have never seen any medical evidence whatsoever that you have fibers in your lungs?

A. No medical evidence, no.

Q. No doctor ever suggested that they wanted to stick a bronchoscope into your lung and try to suck a fiber out?

A. No. They told me that is how it is done.

Q. You didn't want to have that done?

A. No, sir.

[807]

Q. Nobody recommended that?

A. Nobody told me to have it done. They told me that is the way of determining it.

Q. Sitting here today as far as you know you have no asbestos-related disease, isn't that correct?

A. Not that I know, no, sir.

Q. You have no out of pocket expenses in connection with your consultation with the doctors regarding asbestos, do you?

A. No, but I know I will be held responsible for the bills.

Q. That was advanced by your lawyer?

A. Yes.

Q. You currently make how much an hour?

A. As a matter of fact, we just got a raise. I think I am making $19.73.

Q. $19.73 an hour?

A. Yes, sir.

Q. When you told this jury you were making $10 an hour, what time period were you referring to?

A. That was 1985 because when you start on Metro-North you start on a five year program. You start at 70 percent of pay and at the time the pay scale was $15 and change an hour so I was only making 70 percent of that amount of money.

[808]

Q. And it gradually went up?

A. Yes.

Q. Now you are up to almost $20 an hour?

A. Yes, sir.

Q. You also make overtime, isn't that right?

A. Occasionally, yes.

Q. We had some testimony from some of your co-workers about overtime. When overtime is available, you work it; isn't that right?

A. Not all of it, no.

Q. Sometimes you do work overtime when it is available?

A. If it is available, yes.

Q. When you work overtime you make about $30 an hour?

A. Yes.

Q. You also get fringe benefits; isn't that right?

A. What do you mean by "fringe benefits"?

Q. You get vacation, you get insurance, you get sick leave and things like that?

A. No; that is not true.

Q. You don't get vacation?

A. I get vacation but there is no sick leave.

Q. You get a contribution to medical insurance?

A. Yes.

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Q. You get railroad retirement board benefits?

A. I contribute to it.

Q. The railroad puts in a lot higher percent than you do?

A. Possibly, yes.

Q. Possibly. You have been working for the railroad for 20 years?

A. 22 years.

Q. You have no idea whether the railroad contributes more to your pension than you do?

A. I am sure they do, but that is an agreement between the unions and the railroad, not between me and the railroad. That agreement has been there for many years, sir.

Q. Is it your testimony, Mr. Buckley, that from 1987 to 1990 even though you had this fear and emotional trauma and everything that the reason you never got a medical exam until you hired a lawyer was because you couldn't afford it or because you didn't know who to go to, which is it?

A. A little of both.

Q. The medical exam, you heard Dr. Markowitz say, cost about $150 for his exam?

A. Correct.

Q. Your testimony is you couldn't afford $150 for this big concern you had?

[810]

A. I don't remember how much he said the test was. I think it was more than $150.

Q. Whatever it is, you couldn't afford it?

A. No. You don't know what my expenses are. You don't -- I am sure maybe you do, you dug so deep, but you don't know what my life is like, you don't know what expenses I have.

Q. I know --

A. That is why you bring up the fact how much money I make. You don't know how much money I have in the bank, what expenses I have.

Q. You brought up how much you made yesterday when your lawyer asked you and you said $10 an hour?

A. You brought up the fact today I am making almost $20 an hour.

Q. You don't think the jury ought to hear the whole story?

A. Fine. Let them hear the whole story.

Q. As part of your EMT responsibility you said you get upset when you take care of the cancer patients?

A. Not on the railroad, but on the outside, yes.

Q. You do part time work for an ambulance service?

A. One ambulance service.

Q. Metropolitan?

A. Yes.

[811]

Q. How much do you make on a given day for that?

A. $10 an hour.

Q. You do that on the weekends?

A. One day a week.

Q. Mr. Buckley, when you are doing that sometimes you are smoking, aren't you?

A. I will have a cigarette. Like I said, I will smoke a cigarette occasionally, yes.

Q. Metro-North paid for all your training to become an EMT specialist, didn't they?

A. Yes, they did.

Q. Now you are able to use that expertise to work on the outside, part time; isn't that right?

A. Part time, yes. They also taught me plumbing work and I do plumbing work on the outside too.

Q. How often do you do that?

A. Very rarely.

Q. You work around boilers and things like that?

A. No.

Q. What kind of plumbing work do you do?

A. Just mostly a toilet or sink.

Q. As part of this EMT work that you do, you also have to deal with heart attack victims, don't you?

A. Yes, I do.

Q. Does that upset you as much as cancer?

[812]

A. Yes, it does. Any person that is sick upsets me.

Q. You have been told you have high cholesterol; isn't that right?

A. Years ago, yes.

Q. 1990, when you went to Mount Sinai --

A. That was five years ago. That was years ago.

Q. You were told then?

A. Yes.

Q. You know that heart disease is the largest killer in the United States?

A. That is what they say, yes.

Q. Do you have a concern about that?

A. Do I have a concern about what?

Q. That you may die of heart disease some day?

A. I can't be paranoid about everything but, yes, I do think of it.

Q. Only about some things?

A. Yes. They say eating red meat causes high cholesterol but I still eat red meat.

Q. You mentioned yesterday that first you went to another lawyer before you went to Mr. Cahill. That was Mr. McCarthy of Graham, Campagne & McCarthy?

A. Right.

Q. He said he didn't want your case?

A. I don't believe he said that.

Q. He said he wasn't interested in it?

[812]

A. No. I don't think he said that, but that is privileged information no matter what he said to me.

Q. He wasn't your lawyer?

A. If I came to you and discussed a case with you, would you go out and tell everybody what I discussed with you?

Q. What I am asking you is, did he tell you, yes or no, did he tell you that he would not take your case?

A. I don't remember exactly what he said.

Q. Did you go out and recruit some of your co-workers to join this lawsuit?

A. No, sir.

Q. You didn't talk to anyone about it?

A. No, sir.

Q. You didn't say to anyone, let's having a meeting; there is going to be a meeting at a hotel?

A. No. I didn't go to a hotel for a meeting.

Q. Did you ever go to a hotel for a meeting?

A. No, sir.

Q. Was anyone with you when you went and talked to Mr. Cahill at that Howard Johnson's?

A. Yes, there was.

Q. Who?

A. I believe it was either -- I think it was my union

[814]

representative, Paul Muro, he walked me across.

Q. Anyone else?

A. No, not that I remember.

Q. Do you know what Mr. Muro's relationship is with Mr. Cahill or Mr. Goetsch?

A. I think he is also a client on the asbestos lawsuit.

Q. You really don't like Mr. Palmer, do you?

A. What do you mean by "like"?

Q. Yesterday you wanted to have him locked up. Mr. Palmer was the superintendent at Grand Central Terminal?

A. Exactly.

Q. Do you like him?

A. Do I like him; not particularly, no, sir.

Q. You don't like your job; isn't that right?

A. I like my job, sir. I never stated I didn't like my job.

Q. I thought you said you hate your job yesterday.

A. No. I hate the way it is run. I know what you are saying but right now I like doing the type of work but I do not like having to do it under the conditions I have done it and it just makes me angry.

Q. Did you say yesterday that you hated your job?

[815]

A. Possibly, maybe out of anger, I said it.

Q. Mr. Buckley, just so everyone understands this, you are doing basically the same job you were doing in 1987, right?

A. No.

Q. How has your job changed?

A. Well, number 1, we are not removing asbestos anymore. Any time there is asbestos in the area we have to work in, we won't go down into the area until it is cleaned up and we have an air test.

Q. You are working in the same environment?

A. Yes.

Q. Your responsibilities are generally the same except for asbestos?

A. Exactly.

Q. You are still at Grand Central?

A. Yes.

Q. When you go into that steam tunnel everyday you have a reminder about what happened; isn't that right?

A. Yes.

Q. How does that make you feel?

A. Mad.

Q. You know you got 23 years seniority on the railroad so --

A. No. You are wrong. You are wrong. You are jumping the gun. When I left -- when I left Conrail I had

[816]

to resign and I started as a new employee on Metro-North so I don't have 23 years.

Q. You have ten years experience?

A. Ten years.

Q. A lot of people have left during that 10-year period?

A. Yes.

Q. Mr. Nelson has, Mr. Brown has?

A. What do you mean, they left?

Q. They are gone from the railroad?

A. No. You are wrong.

Q. Isn't Mr. Brown --

A. Mr. Brown, but Mr. Nelson is still there.

Q. He just dropped out of the lawsuit. I misunderstood what you said.

A. You didn't ask me if Mr. Nelson left the railroad.

Q. Mr. Nelson just dropped out of this lawsuit?

A. Yes.

Q. Essentially, in 1987 you were assigned to the pipe shop Track 100 area?

A. Correct.

Q. That is at the lower level of Grand Central?

A. Right, yes; lower level, yes.

Q. You still work there today; isn't that right?

[817]

A. Correct.

Q. Same location?

A. Same location.

MR. LANDMAN: Your Honor, I don't know if you want to take a morning break or should I keep going?

THE COURT: You think a break would be good at this point?

MR. LANDMAN: I think so because we are moving into a new area.

THE COURT: Okay. Why don't we take a short recess?

(The jury leaves the courtroom)

MR. LANDMAN: Your Honor, the reason I wanted to take a break is I have the memo of law and I wanted to give it to you now that we are going to rely on in support of our motion.

THE COURT: Okay.

(Recess)

THE COURT: Please proceed.

BY MR. LANDMAN:

Q. Mr. Buckley, you testified a little bit about when you started at Metro-North you only got 70 percent of your pay?

A. Exactly.

Q. Isn't it a fact by 1986 you had taken a grievance

[818]

and because you provided evidence of four years as a plumber with Conrail you were considered a journeyman and your pay was adjusted upward?

A. Yes, it was.

Q. They gave you seniority for those four years also; isn't that right?

A. What do you mean by "seniority," sir?

Q. They gave you seniority for the time you were with Conrail?

A. No, they did not. I started as a new employee.

Q. This $10 an hour you talked about was only for less than a year?

A. After one year it went up 5 percent or 10 percent, I believe. Because I was a journeyman, I went up 10 percent, 10 percent until I was up to 100 percent pay.

Q. After the first year you started there you worked in the service plant, the refrigeration plant and underneath the tracks; isn't that right?

A. Correct.

Q. Sometimes you would go to escort the meter man from the operations department to check on the Con Ed steam stations in Grand Central, wouldn't you?

A. Yes, sir.

Q. Sometimes you would go with Vanguard to change the meters?

[819]

A. Yes.

Q. When you changed the meters that doesn't have anything to do with asbestos, does it?

A. They are located in -- the steam meters are located in steam areas in west tunnel, in the 49th and 43rd Street meter rooms.

Q. You are not cutting and removing insulation when you are changing a meter, yes or no?

A. If you have to change the line, it is involved.

Q. What about if you are changing the meter?

A. I wouldn't change the meter myself. It would be up to the Vanguard Company to change the meter.

Q. You are basically showing them where to work?

A. Possibly. It takes about 10 minutes to change a meter.

Q. Vanguard is an outside contractor?

A. Exactly.

Q. You agree that this is your signature on Exhibit F, the sheet where you attended the 3M respirator class in the 1987; isn't that right?

A. Yes, it is.

Q. In fact, three weeks before that you had an OSHA compliance exam by the medical department for respirator use, didn't you; do you remember that?

A. It was an OSHA compliance to see if I was able to

[820]

wear a respirator.

Q. You went to the medical department for that?

A. Exactly.

Q. They sent you out for an x-ray; isn't that right?

A. Yes, they did.

Q. Everything was normal?

A. Yes.

Q. Just so we understand, in January 1987 you go to the medical department, they check you out for a respirator, they say you are physically all right to use one, then you go to this class in February, is that right?

A. Yes.

Q. You now claim that the first time you were actually ever fit for a respirator was in 1989 at Grand Central, is that right?

A. I believe so, yes.

Q. But, in fact, in addition to attending this class, after -- when you went to this 1987, August 31, 1987 asbestos awareness class, they gave you half mask respirators; isn't that right?

A. Exactly, they gave them to us.

Q. We just went over the curriculum and you saw a couple of movies there, didn't you; isn't that right?

A. Yes. Yes, we did.

Q. After you got that respirator on August 31, 1987,

[821]

you used that sometimes when you were removing asbestos, isn't that right?

A. Yes.

Q. It actually had straps to tighten it, if necessary; didn't it?

A. Yes, it did.

THE COURT: I didn't get that.

MR. LANDMAN: It had straps to tighten it, if necessary.

Q. If there was friable asbestos in the area, you would use the respirator; isn't that right?

A. Yes.

Q. You were talking about this job with Mr. Goetsch yesterday where you had to remove 16 bolts and, you know, I can't remember now, was that on a flange or what was that on?

A. It wouldn't make any difference if it was a flange or valve. Flanges and valves all have bolts.

Q. What I want to do is pinpoint this particular job you were describing.

A. Okay.

Q. Tell me where it was located.

A. The one particular job I was talking about was in the 49th Street meeter room where we had to remove the expansion joint.

[822]

Q. What time of year was this?

A. Gee, I don't remember, Sir.

Q. What year?

A. '86, I believe.

Q. You had to take off these 16 bolts; isn't that right?

A. On each side, yes.

Q. There is 32?

A. 32 bolts altogether.

Q. How do you do that?

A. With wrenches.

Q. Each one?

A. Yes.

Q. How long does that take?

A. That all depends.

Q. How long did it take you that day?

A. I don't remember exactly how long it took me that day but sometimes bolts -- the nuts, as you know, would stretch from heat and so sometimes they would have to be cut off.

Q. It could take you all day to just get half of them off, right?

A. No, I wouldn't say that.

Q. How long would you say?

A. For 16 bolts, if we were having problems with them we would cut them off.

Q. How long would that take?

A. A few hours.

Q. Then you would have to do the other 16?

A. Yes, sir.

Q. How many people worked on that Biltmore project with you that you talked about yesterday?

A. About four that I can think of.

Q. How many?

A. About four that I can think of.

Q. How much does three foot of pipe weigh based upon the pipe that you were removing there?

A. The pipe that is in there is considered schedule 80 which is extra heavy pipe. A three foot section of eight inch pipe would probably weigh 150 pounds.

Q. You remember meeting Roy Balzer back in July of 1994 when you went on a tour of the Grand Central Terminal steam tunnels with Dr. Nicholson?

A. Yes. I don't remember who it was but I remember going on a tour.

Q. You remember telling some people down there that you used to change your clothes three or four times a day because it was so hot?

A. Exactly.

Q. That would include your underwear?

[824]

A. Yes.

Q. Also you said sometimes it was so hot you would only work in the tunnel for 40 minutes at a time?

A. I didn't say in the tunnel. I said we would only work 40 minutes at a time and we would have to sit and take a break.

Q. Once Metro-North found out there was asbestos in 1987 in the tunnels, they stopped you from working in the area, didn't they?

A. No, they did not.

Q. They didn't?

A. No.

Q. Isn't it true that once you found that there was friable asbestos in that area that it was taken care of by an outside consultant?

A. In 1987?

Q. Yes.

A. No, sir.

Q. Clearly, Metro-North knew by 1987 that there was asbestos in the steam tunnel, right?

A. Yes.

Q. Page 30, line 24: Reading from your deposition:

"Q Do you know of your own knowledge whether any of the material you handled had asbestos in it?

"A Yes, I do.

[825]

"Q. How do you know that?

"A. Because when we -- later on, when I along with my fellow employees were concerned about the asbestos, they finally started taking pieces of it, having it sent out and analyzing, yes, it did turn out to be asbestos.

"Q When you say "they" --

"A Metro-North safety department.

"Q Took out pieces of asbestos?

"A Of asbestos. They had an asbestos testing firm. They do bore samples into the asbestos and when they found out that it was asbestos they more or less stopped" -sorry, "they more or less started stopping us from working in the area.

"Q. So, did there come a time when you didn't work with asbestos any longer; is that correct?

"A. I still worked with it but if it was a friable situation where the asbestos was hanging off a pipe, no, we could not. We finally decided, no, we would not do it anymore.

"Q. At some time Metro-North had friable asbestos. This was discovered and taken care of by an outside consultant?

"A Yes.

"Q Do you recall when that was?

"A The first time I believe I saw an asbestos

[826]

company on the property was possibly 1988, 1989, the first time we actually saw a company called Envirosafe."

Was that your testimony?

A. Yes, if it is there, it is.

Q. In fact, you saw the exhibit in this court where the testing was actually done in 1986, isn't that correct?

A. The testing was done, but what you were asking me was if I saw or if I was still working with it in 1987. I said, yes, I was.

You didn't say anything about was the company there and removing it. They were just doing samples.

Q. You disagree with what Mr. Gropper said yesterday about when Envirosafe started removing asbestos?

A. Well, I know when Envirosafe was removing asbestos they were doing big projects and I was still removing asbestos.

Q. We are in agreement that Envirosafe was the asbestos abatement company you were referring to; isn't that right?

A. I am not sure what year they were there but I know when they were there we were still removing it.

Q. Mr. Goetsch asked you some questions about on-the-job injuries?

A. Yes, sir.

Q. You had some on-the-job injuries?

[827]

A. Yes, a few.

Q. He brought up the fact that you never filed a lawsuit until this one?

A. Yes.

Q. You have hired a lawyer before?

A. I hired a lawyer. I said I was never in court.

Q. I am asking you a different question now. You hired a lawyer and made claims against the company and have been paid for those claims?

A. Yes. I hired a lawyer one time.

Q. You also made claims to the claims department four or five times where they settled with you without a lawyer?

A. Yes, for a lost time injury.

Q. In fact, you had an on-the-job accident with Conrail, right?

A. I believe so, yes.

Q. Where you fractured your foot?

A. Yes.

Q. You made a claim for that?

A. Yes.

Q. You got paid for that?

A. They paid me for my lost time.

Q. The lawyer you hired before was Mr. Flan for another claim?

[828]

A. Yes.

A. Yes.

Q. In 1987 you were angry about what had happened; is that right; after you saw the film?

A. Yes.

Q. When did the fighting with your wife start? You testified yesterday that you fight with your wife now because of this?

A. Well, because -- when I said I was fighting with my wife, we argue a lot now because of the trial, when I first became the plaintiff.

Q. You argue because of the lawsuit, not because of the exposure?

A. Because I talk about it a lot.

Q. The lawsuit?

A. Yes, sir.

Q. It is right now the most important thing going on?

A. No, it is not.

Q. It is an important thing?

A. It is a serious thing. I guess it is important, Yes.

Q. When you testified yesterday about the fights with your wife, that had to do with this lawsuit?

A. I didn't say "fights." I said I lost my temper lot. I argued with her.

[829]

Q. That has to do with this lawsuit, not with respect to your exposure?

A. Maybe a combination of the two.

Q. How long have you been arguing say, you yell at your wife?

A. Yes.

Q. How long have you been yelling at your wife?

A. For a few months now.

Q. As this lawsuit got closer?

A. Yes, because of the -- well --

Q. This lawsuit was originally scheduled to be tried in November 1994 and because the judge had a criminal case, it got put over until this time?

A. Correct.

Q. You knew about that trial coming up in November 1994?

A. Yes.

Q. Because you couldn't have been fighting with your wife after you saw that movie because you didn't even meet her until 1988, isn't that right?

A. That's correct, yes.

Q. You got married in 1989?

A. That's correct, yes.

Q. You were out of work from June 7 to June 12, 1987 with an injury, weren't you; that was the one to your right

[830]

hand?

A. What was the date again?

Q. June 7 to June 12, 1987.

A. No. I never lost any time for that injury. I was on light duty.

Q. What does "light duty" mean?

A. You show up for work and you do work around the shop or around the office or they give you sweeping details.

Q. You wouldn't be doing asbestos insulation removal?

A. I would be down with the people.

Q. You wouldn't be doing the work?

A. I would be helping cleaning up.

Q. Don't the laborers usually do the cleanup?

A. Sometimes they do. It all depends what area it was in.

Q. Aren't there rules what a pipefitter can do versus what a laborer can do?

A. I clean up after my own men. We clean our own tools off.

Q. Clean up your own tools?

A. Yes, exactly.

Q. You also had light duty again on July 23, 1987 because you had a strain of your right foot, isn't that right?

[831]

A. Yes.

Q. You were wearing a soft cast?

A. Yes.

Q. How long did you have light duty then?

A. I don't believe I had light duty for that long. I think it was maybe just a few days.

Q. In 1988, on June 13, you were contacted by Mr. Macaluso with respect to excessive absenteeism and he discussed the absenteeism policy with you and you indicated to him that your record will improve.

You were aware of the concern the company had about your continued absenteeism in that you would attempt to avoid any further problems, is that right?

A. Yes, sir.

Q. That was on June 13, 1988; is that right?

A. Right.

Q. You had also been cited for excessive absenteeism in 1987?

A. I was talked to about it, yes.

Q. You got a letter from Mr. Gropper about it?

A. Yes, I did.

MR. GOETSCH: Your Honor, could we have a sidebar?

THE COURT: Yes. (Continued on next page)

(In the robing room)

MR. LANDMAN: Exhibit H --

MR. GOETSCH: Your Honor, these are precisely the attendance records that I asked him whether he was going to be introducing and he said he wasn't. Here they are now for the first time produced to me.

MR. LANDMAN: Let me just say -- that is not true. What I said is '85, '86, '87. This is 1988. It is in the personnel file that I produced to you. That is right where I got it out of.

MR. GOETSCH: The motion went to any and all attendance records.

MR. LANDMAN: You have these in your personnel file.

MR. GOETSCH: No, I don't. I will show it to you.

MR. LANDMAN: We will resolve that. Let's hold off on that. I know they are in the file. If it is a problem, it is not a big deal. Let's just move on.

THE COURT: You withdraw that?

MR. LANDMAN: Yes.

THE COURT: I can't be reversed on that ruling. (Continued on next page)

[833]

(In open court) BY MR. LANDMAN:

Q. Mr. Buckley, why were you missing so much time in 1988 that caused you to have this discussion about absenteeism?

A. Personal problems.

Q. You were sick a lot?

A. I said it was personal problems.

Q. Did your attendance get better after June 1988?

A. Yes, it did.

Q. In 1986, from January 29 to February 5, you were out because of an injury you suffered while inspecting fire extinguishers, isn't that correct?

A. Correct.

Q. Inspecting fire extinguishers was part of your job down there, right?

A. On occasion, yes.

Q. It was in 1986?

A. On occasion, yes.

Q. In 1989 you did have a physical exam at Metro-North; isn't that right?

A. Yes.

Q. They did a chest x-ray?

A. Yes.

Q. That didn't show any problem at all?

[834]

A. No.

THE COURT: Yes, it didn't.

MR. LANDMAN: I am sorry, your Honor.

THE WITNESS: Yes, it didn't.

Q. In 1992, Metro-North gave you a pulmonary function test?

A. Possibly; I don't remember that one, no.

Q. Let me show you and see if this refreshes your recollection.

A. Fine. Okay.

Q. That was normal; is that right?

A. I guess so.

Q. In 1989 you had also had a pulmonary function test that was normal; isn't that right?

A. Yes.

Q. In 1992, November 6, 1992 when you went to Metro-North for your periodic medical, you responded that you had stopped smoking in 1990; is that right?

A. 1990, 1991, whatever it was.

Q. Next to your signature it says you stopped smoking two years?

A. Well, maybe I exaggerated a little bit.

Q. In 1992 you also went to Metro-North to get a medical exam with respect to your fire brigade duties; is that right?

[835]

A. Yes. That was required by OSHA.

Q. How often do you have to go get an exam to be a fireman?

A. Just that once so -- because we were going to go for training and they wanted to make sure before we went for the training that we were physically fit.

Q. In 1985 you had a medical exam at Metro-North where they found that your triglycerides were elevated, isn't that right?

A. What is triglycerides?

Q. Cholesterol.

A. Okay.

Q. Did they tell you that?

A. No.

Q. You know you had a couple high cholesterol tests in Mount Sinai?

A. One that I was told about, yes.

Q. In October 1989 you had what is called a B reading; isn't that right; an x-ray, and they found no evidence of any type of lung disease at Metro-North?

A. I was never told that. I know had an x-ray but they never gave me the results of them.

Q. November 7, 1990 you had a chest x-ray at the Life Extension Institute; isn't that right?

A. I guess so, yes.

[836]

Q. That is at 437 Madison Avenue?

A. Yes.

Q. Is that near Grand Central?

A. I think it is -- it is near.

Q. A couple blocks?

A. More than a couple blocks. A couple blocks is two blocks.

Q. How many blocks?

A. Maybe six.

Q. Metro-North sent you over there for a chest x-ray; isn't that right?

A. Yes.

Q. That chest x-ray was normal?

A. I guess it was. They never gave me the results, as I said.

Q. Didn't, Mr. Buckley, in fact, you receive some of your x-rays in January 1990?

A. I don't recall, no.

Q. After you hired Mr. Cahill and Mr. Goetsch, didn't you go up to the medical department and say I want my x-rays?

A. I believe I did.

Q. Didn't they give them to you?

A. I don't believe they did, no.

Q. You don't believe they did?

[837]

A. What I believe is I think they wanted us to pay for them or something like that; somewhere in that area.

Q. You didn't sign a paper saying that you were receiving them?

A. I think I did sign a paper, yes.

Q. You wouldn't sign that unless you were getting them, would you?

A. No. What the paper -- we were asked to sign the paper as a release and we were supposed to go over and pick them up at the place where we had the x-rays taken but they wanted us to pay for them.

Q. Did you ever do that?

A. No.

Q. The reason is because you didn't want to pay for them?

A. I felt that I shouldn't have to pay for x-rays.

Q. I would just like to show you Exhibit G which had been marked for identification.

You would agree, Mr. Buckley, that this states, on January 16, 1990, "I have received my x-rays from the Metro-North medical department in Grand Central Terminal and I am aware that I would be billed a charge from Corporate Health Life Extension. These x-rays now belong to me."

It has your signature?

A. Yes.

Q. That is your signature?

A. It is my signature but, like I said, we were supposed to take this paper over with us and they were going to give it to us. If you find a bill from this company -- I never received a bill from them because I never picked up the x-rays.

Q. This company, Corporate Health Life Extension is not Metro-North, is it; it is a private company?

A. Yes, it is.

Q. What Metro-North is basically saying is, yes, you can have your x-rays but you have to pay for them, and you decided not to pay for them?

A. They told us it is about $50 for the x-ray; yes.

Q. This is about three years now after you have this concern about the exposure and the risk and you didn't want to spend the $50 to get the x-rays?

A. What year was this?

Q. 1990.

A. Because I was going to go to my own doctor.

Q. Dr. Markowitz?

A. Not my doctor.

Q. Mr. Cahill's doctor?

A. Right. I figured I wanted an updated version of my x-rays, not one that was old.

Q. Was that based upon medical advice you got from

[839]

Mr. Goetsch or Mr. Cahill or who?

A. No. It just makes common sense. If you go to a dentist and had x-rays a year ago, wouldn't you want new x-rays?

Q. Don't you think it is helpful to a doctor to see if there is any changes in your lungs and, therefore, it may be useful to have prior x-rays?

A. If they take an x-ray they can tell.

Q. They can tell when something developed?

A. There is something developing.

Q. This was, obviously, when you wanted these x-rays was after you had already hired Mr. Goetsch?

A. It could have been, yes. I am not sure exactly.

Q. Did Mr. Cahill or Mr. Goetsch tell you you ought to get your x-rays for your lawsuit?

A. No.

THE COURT: Is this document in evidence?

MR. LANDMAN: I am moving it in evidence, your Honor.

THE COURT: Any objection?

MR. GOETSCH: No objection, your Honor.

THE COURT: Received.

(Defendant's Exhibit G for identification was received in evidence)

Q. On November 6, 1992 you had chest x-rays that

[840]

Metro-North paid for at a company called EHG; isn't that right?

A. Could you tell me where EHG is located and I could tell you?

Q. Midtown clinic.

A. Could you give me the address?

Q. I don't have the address?

A. If you told me the address it would be more helpful.

Q. On November 6, 1992 do you remember going somewhere to get a chest x-ray?

A. I have been to so many chest x-rays I don't remember.

Q. You had a lot of them?

A. You have shown me I had a lot of them.

Q. Metro-North paid for all of these?

A. Yes, they did, yes.

MR. LANDMAN: Your Honor, we would offer Exhibit H in evidence, the report of the November 6, 1992 x-ray exam which is contained in Mr. Buckley's personnel file.

THE COURT: Any objection?

MR. GOETSCH: No, objection, your Honor.

THE COURT: Received.

(Defendant's Exhibit H for identification was received in evidence)

[841]

Q. Mr. Buckley, let's talk for a brief moment about your fireman duties. You received a lot of training to become a fireman; isn't that right?

A. In 1993, yes.

Q. You have been a fireman since 1988 or 1989?

A. 1988.

Q. No one put a gun to your head and said, look, you have to be on the fire brigade, did they?

A. No, sir, it is completely voluntary.

Q. As part of your training over the course of time, you received various workbooks and things like that about fire fighting?

A. We never had any formal training, as I said, before 1993.

Q. When you had the training in 1993 they talked to you about hazardous substances, isn't that right?

A. Yes, they did.

Q. They basically explained to you things such as the very nature of fire fighting requires work in an environment that is heavily saturated with toxic vapors and products of combustion; isn't that right?

A. Yes.

Q. You knew that toxic vapors means poisonous air?

A. Exactly.

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Q. These vapors and byproducts of fire have a very bad effect or detrimental effect on the circulatory and respiratory system of the body?

A. If you are not protected, yes.

Q. You knew that?

A. Yes.

Q. You still are a fireman, isn't that right?

A. Yes.

Q. In fact, recently you have taken some more training to become an EMT operator?

A. Emergency medical technician, correct.

Q. As part of that, in addition to being trained about all of these hazardous substances, I assume you were trained about vinyl chloride and what happens when that burns?

A. Yes.

Q. At Metro-North you have a lot of signal wire and other types of wire on the equipment and on the tracks and some of that has got plastic covering which has vinyl chloride in it?

A. Yes.

Q. You know if that burns that can give off hazardous fumes?

A. Yes.

Q. A lot of the fires you fight are actually out on

[843]

the tracks and things like that where some of this wire may actually be burning?

A. Yes.

Q. You also know, of course, even though the asbestos has been encapsulated now at Grand Central that like this building and 75 percent of the buildings in the United States, there is still asbestos in Grand Central?

A. Yes, there is.

Q. If there is a fire you may get exposed to asbestos?

A. If there is a fire in the area, I am protected.

Q. Isn't it true that once a fire is over, one of the jobs of a fireman is doing what is basically called "overhaul"?

A. No. You see you are getting it wrong. When there is a fire at Grand Central Terminal we contain the fire until the New York City Fire Department comes and they take over.

Q. You are the first person on the scene?

A. We are the first response, yes.

Q. You could be exposed to fumes at that time?

A. No, no, because if there is a fire they have a very strict rule that when you approach a place where there might be a fire you must have your full face respirator on with an air pack.

[844]

Q. You always follow that rule?

A. Yes, because if you don't you will be dismissed from the fire brigade.

Q. As part of your EMT training, one of the things you had to be trained about is giving mouth-to-mouth resuscitation?

A. You don't give mouth-to-mouth resuscitation anymore.

Q. Because of the health hazards?

A. Exactly.

Q. You were also trained about bloodborne pathogens?

A. Exactly.

Q. That is transmission of disease because the person who you may be assisting's blood may get in your own blood?

A. Only if you have an open wound or if you do mouth-to-mouth resuscitation, yes, otherwise you are just about 100 percent protected.

Q. In fact, aren't you required to get a hepatitis vaccine?

A. You are not required. If you read the law it says it is not mandatory. They cannot force it. It is only given to you as a precaution.

Q. You can do that?

A. Yes, I did.

[845]

Q. One of the risks you have now is hepatitis?

A. Not only from there but working in the plumbing shop, we also have a risk of contracting hepatitis, working in an open sewer main.

Q. Also you know that you have a risk as an EMT operator to tuberculosis?

A. Everybody has a risk of tuberculosis because you can catch tuberculosis from somebody that is active, that has tuberculosis or from a crowded subway. I am at no more risk than anyone else if you follow the guidelines.

Q. When you applied to work at Metropolitan Ambulance in Brooklyn you stated that you have no medical problems at all, isn't that correct?

A. That's correct, exactly.

Q. Also you signed a piece of paper recently from Metropolitan which states as follows: "I understand that due to my occupational exposure," meaning working for the ambulance company?

A. Exactly.

Q. "To blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus infection;" did you sign that?

A. Yes, I did.

Q. You knew what it meant?

A. Yes.

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Q. What did you mean by potentially infectious materials?

A. Working in a hospital you can get stuck by a needle because we go to a lot of hospitals. We are at a lot of scenes where there has been a lot of needles on the scene and when you are picking up a patient you may get stuck by one of them.

Q. You testified that you make $10 an hour doing this?

A. Yes, sir.

Q. Don't you usually make about $170, $180 per day?

A. That is only if I work more than eight hours.

Q. Is that what you typically do?

A. Eight hours. I usually work the 9:00 to 5:00 shift on Saturdays. Sometimes they ask me to work an overnight if they have no one else available.

Q. On January 6 you made $170. Did you work overtime?

A. Yes.

Q. On January 18 you made $182. Is that with overtime?

A. Yes.

Q. On January 7 you made $170 so you worked overtime?

A. Yes, I did.

[846]

Q. Out of the last four weeks in January, three of those you worked overtime?

A. It is not overtime; just an extra day I get in. They don't give overtime.

Q. It is straight time?

A. Yes, exactly..

Q. $10 an hour?

A. Yes, sir.

Q. Have you ever worked at St. Vincent's Hospital?

A. I never worked there, no, sir.

Q. You applied for a job there as an EMT specialist?

A. I was going to, yes.

Q. Isn't it true that in 1989 as part of your fire department training, you were trained on chemical safety at Metro-North?

A. Yes.

Q. What does that mean?

A. We were trained on various types of chemicals.

Q. That you could be exposed to?

A. The hazards and how to avoid them.

Q. You also received in 1989 hazardous recognition training as part of your Fire Department duties?

A. Yes.

Q. You also received toxic dust hazard training in 1990?

A. Exactly.

Q. In 1990 you also received toxic particulate hazard training?

A. Exactly.

Q. What does that mean?

A. Just particles of dust, types of dust from different chemicals or different metals.

Q. Toxic means poisonous?

A. Exactly.

Q. These are all things you have learned are part of the risk of being a fireman and you continued to be a fireman?

A. Because I am well protected. They teach you now how to protect yourself.

Q. In October 1991 you received Metro-North chemical safety training about organic solvents?

A. Yes.

Q. That is basically like degreasers and things like that?

A. Degreasers, ammonia, bleach.

Q. Benzene is something Dr. Nicholson said is a big hazard?

A. We do not use benzene at Metro-North.

Q. You received training about organic solvents. I presume they told you they could be hazardous when you are fighting a fire?

[849]

A. And bleach and ammonia is hazardous when fighting fires.

Q. In 1992 you received hazardous material training again?

A. Yes.

Q. In fact, most of your training with this fire brigade has mostly been about chemical safety, toxic dust; isn't that true?

A. Yes, it is.

Q. You have taken several hepatitis vaccines; isn't that right?

A. It is a three-shot series. You are given one a month, and after the second one, after six months, you receive the final one.

Q. Basically, you signed a consent form that states that, "The law requires that hepatitis B vaccine be offered at no expense to those employees whose work may bring them in contact with blood, body fluids or needles contaminated with hepatitis B;" isn't that right?

A. Yes, sir.

Q. That was in connection with your fire department duties?

A. Not only, but everybody in the pipe shop and machine shop, too; anybody who works around open sewers has been offered the shot. It is mandatory.

[850]

Q. It is mandatory that you are offered it. It is not mandatory that you take it?

A. It is mandatory that you are offered it, yes, sir.

Q. In fact, while you keep saying it is mandatory with respect to the pipe shop, the reference that you took the hepatitis B vaccine is on your training record for the fire department; isn't that right?

A. Exactly. We were the first to be offered the shot.

Q. Because you have the highest risk?

A. I guess so, yes.

MR. LANDMAN: I don't have anything further, your Honor. Thank you.

THE COURT: Redirect. Are you ready to proceed?

MR. GOETSCH: Yes, your Honor. We can proceed.

THE COURT: Okay.

REDIRECT EXAMINATION

BY MR. GOETSCH:

Q. Mr. Buckley, Mr. Landman asked you about a letter from general superintendent, Grand Central Terminal, Palmer?

A. Yes, sir.

Q. That has been marked as Plaintiff's Exhibit 0030.

[851]

Would you take a look at that, Mr. Buckley, and tell us how that letter came about?

A. This was

MR. LANDMAN: Objection; relevance.

THE COURT: You asked him about the letter.

MR. LANDMAN: Because on direct Mr. Goetsch brought out that it said that he was licensed.

That is the only point I asked him about, your Honor.

THE COURT: He has asked about it. He might as well let us know.

THE WITNESS: On November 5, 1987 after we had the training at Envirosafe we were still asked to remove asbestos on, like I said, sometimes on a daily basis, so at one point they were doing renovation work in a room called the kit room down in Grand Central Terminal.

The kit room was going to be turned into a communications center. Down in this kit room there were steam pipes running through it.

We were asked, I should say, told, to go down and cut the pipes out. The pipes were covered with asbestos insulation. I think there was four or five people on the jobs. There were three burners.

I know people used oxygen acetylene torches. When we went down there we saw how much asbestos was involved and we had complained about it.

[852]

So Larry Brown, who was one of the people on the job, said, well, I am going to go up and stop this.

MR. LANDMAN: Objection; hearsay, your Honor.

MR. GOETSCH: Under 801(d)(2)(D) it is not hearsay. He is explaining --

THE COURT: He is trying to explain how the letter came into being. Whether he said it or not, we don't know.

THE WITNESS: So Larry Brown --

THE COURT: We are assuming he said; whether it is true or not, we don't know.

THE WITNESS: Larry Brown was acting as a union representative because of the fact that any member in good standing with Local 149 may represent one or more members of the union. That is an agreement between Metro-North and the sheet metal workers international union.

He said that he was going to write a letter and see if this can finally come to a stop. The letter is here. He wrote to it, wrote a grievance about it to the labor relations department and told Fred Palmer who was the general terminal superintendent.

The next day the letter came back addressed to the union to Mr. Paul Muro who was our local representative of sheet metal workers international. The letter states I will give you a bit -- that it has always been the pipe shop's

THE COURT: Just read the -- you read the letter to the jury.

MR. LANDMAN: Okay.

THE COURT: You are offering it in evidence?

MR. GOETSCH: Yes, your Honor.

MR. LANDMAN: I have no problem with Mr. Palmer's letter coming in. The attachments we can't ask anyone about because that person is not here and he is Mr. Goetsch's former client. We don't have any control --

MR. GOETSCH: The letter to Mr. Palmer is what produced Mr. Palmer's letter, your Honor.

THE COURT: Let me see it. There is nothing attached to that.

MR. GOETSCH: That is what was attached to it, your Honor. That is the letter that Mr. Brown wrote on behalf of himself and the other pipefitters.

MR. LANDMAN: If Mr. Goetsch is going to testify to that effect, because Mr. Brown was Mr. Goetsch's client --

MR. GOETSCH: Not at that time, your Honor, he wasn't.

THE COURT: Read it.

MR. GOETSCH: Ladies and gentlemen, this is a letter dated November 5, 1987 to Paul Muro, local

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representative of the sheet metal workers at Grand Central. It is from the general superintendent, F.T. Palmer.

"Dear Sir: This is in response to the grievance submitted on behalf of Mr. Larry Brown dated November 4, 1987. It is your contention that the removal of existing pipe insulation is not covered under the scope of the controlling agreement.

"Additionally, Mr. Brown indicated that Mr. Macaluso advised him that if he refused a direct order he would be taken out of service for insubordination.

"Please be advised that we do not agree with your position. Based on past practice, the pipefitters at Grand

Central Terminal have always handled the removal and replacement of all pipe insulation.

"Furthermore, Mr. Macaluso's statement was not intended to intimidate Mr. Brown; it was merely intended to inform him of the seriousness of refusing a direct order. Therefore, based on the fact that Mr. Brown suffered no loss of earnings, nor was he reprimanded in any fashion, it is our contention that there is no basis for this grievance. Very truly yours, general Superintendent Palmer." That was dated November 5, 1987.

THE COURT: I take it the jury understands the word "grievance" means as a union representative they ask

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that certain things be done and --

MR. GOETSCH: I offer that as a full exhibit, your Honor.

MR. LANDMAN: No objection.

THE COURT: Received. (Plaintiff's Exhibit 30 for identification was received in evidence)

Q. Mr. Buckley, what does it mean to be taken out of service for insubordination at Metro-North?

A. In a case --

MR. LANDMAN: Objection.

THE COURT: Sustained.

Q. Mr. Buckley, do you ever smoke cigarettes in your house?

A. No, sir.

Q. You were asked questions about asking your foreman and superintendent whether the insulation was actually asbestos?

A. Yes.

Q. What did they indicate to you prior to August of 1987?

A. That it was not asbestos.

Q. Did you also speak to the safety department regarding that?

A. Yes, we did.

[856]

Q. Did they indicate to you -- what did they indicate to you?

A. That it was not asbestos.

Q. Has any of the pipefitters who worked along with you in Grand Central from 1985 up to the present during

the last ten years developed any asbestos-related diseases as of this point in time as far as you know?

A. Not that I know of, no, sir.

Q. You were asked questions about smoking, Mr. Buckley. As far as your risk from your asbestos exposure is concerned, do you blame Metro-North for any additional or increased --

THE COURT: He said he didn't on direct.

Q. You were asked about seeing an attorney McCarthy. Did you ask attorney McCarthy to retain you?

A. No.

Q. Did you ask Mr. McCarthy to represent you?

A. No.

Q. Subsequent to seeing him, did you contact my firm?

A. Meaning after?

Q. Afterwards, yes.

A. After, yes.

Q. At that respirator class in February of 1987, Mr. Buckley, did anything occur during that class to give

[857]

you reason to use any respirator while removing pipe insulation between February of '87 and up through August of '87?

A. Yes.

Q. What was that?

A. The training film we watched.

Q. You are referring to the training film that you saw in August of 1987?

A. Yes.

Q. The question was, prior to that, did anybody give you any reason to use a respirator when removing pipe insulation?

A. No, sir.

Q. All told, during the calendar year 1987, how many days did you not work at Metro-North for whatever reason?

A. I don't know offhand, sir.

Q. Can you give us a number of weeks for vacation, personal time, anything?

A. I know I have two weeks vacation time and we get no personal time. Your normal holidays and days off, I couldn't tell you how many in 1987.

Q. Is it your testimony that you were not fit tested at the August 1987 class for a respirator?

A. Yes.

Q. In January of 1990 did the Metro-North medical

[858]

department at Grand Central actually give you copies of your x-rays?

A. No. They did not have them. Like I said, they were at the laboratory that took the x-rays.

Q. Mr. Buckley, why did you become a volunteer fireman on Metro-North?

A. I like helping people out.

Q. Has there been any time during your work as a fireman at Metro-North when you have not been properly protected as a fireman?

A. No, sir.

Q. What type of protection do you have as a Metro-North fireman at Grand Central?

A. We have bunker pants, we have overcoats, fire overcoats, we have helmets, full face masks with an air pack on the back that holds 20 minutes of air.

Q. Did your training regarding hazardous materials in connection with your fire brigade work at Metro-North, did that occur after 1988?

A. Yes.

MR. GOETSCH: No further questions at this time, your Honor.

MR. LANDMAN: No questions, your Honor.

THE COURT: Okay. You may step down. Next witness.

SELECTED EXHIBITS ADMITTED INTO EVIDENCE DURING TRIAL

PLAINTIFF'S EXHIBIT 0001

(Title omitted in printing)

ADMITTED AND STIPULATED FACTS

1. The defendant, Metro-North Commuter Railroad, is a railroad corporation duly established by law, and having a usual place of business in New York, New York.

2. The plaintiff Michael Buckley is of Belle Harbor, New York, and is employed by the defendant Railroad as a pipefitter.

3. The defendant Metro-North Commuter Railroad is a common carrier engaged in the business of interstate commerce, and as such, operated a railroad in such business between New York, New York, and New Haven, Connecticut.

4. From 1985 to the present, the defendant Railroad was engaged in interstate commerce and the plaintiff was employed in furtherance of said commerce.

5. From 1985 and extending up to the present, the plaintiff Michael Buckley has been engaged in his duties as an employee at or about Grand Central Terminal, New York, New York, which yards, buildings, tunnels, pipes, wires, rooms, ceilings, walls, service plant, and all other facilities and structures appurtenant thereto were operated and/or maintained by the defendant Railroad.

6. By no later than 1986 the defendant Railroad obtained actual notice of the presence of asbestos in Grand Central Terminal and notice of the hazard that working with or around asbestos posed to the health and welfare of its employees.

7. Metro-North admits that it negligently exposed the plaintiff Michael Buckley to asbestos while he was working in Grand Central Terminal from June 1985 to the beginning of September 1987. During that time period Metro-North admits that it exposed the plaintiff to asbestos without warning him that he was being exposed to asbestos and without training him how to safely handle and remove asbestos.

8. According to the U.S. National Center for Health Statistics, Vital Statistics of the U.S., Annual, the life expectancy of a white male person 39 years of age is 36.5 years.

PLAINTIFF'S EXHIBIT 2051

ABATEMENT SAFETY
TRAINING INSTITUTE
323 West 39th Street
New York, NY 10018
(212) 629-8400
(212) 564-8222

OSHA AWARENESS

MANUAL

STUDENT GUIDE

TAPE 1: ASBESTOS AND ITS HEALTH EFFECTS

OBJECTIVE

Upon completion of this section, you will be able to demonstrate a general knowledge of the history, uses, and characteristics of asbestos. In addition, you will gain a basic understanding of the terminology associated with asbestos work. You will also understand the potential hazards and health effects of asbestos exposure.

HISTORY OF ASBESTOS USE

Asbestos has been used since the beginning of recorded history in everything from pottery and bricks to embalming sacks. The first connection between asbestos exposure and health problems was discovered in approximately 100 A.D. By the early 1900's there was fairly conclusive evidence of significant lung damage from asbestos exposure. In 1918, Prudential Life Insurance Company refused to insure North American workers who worked in asbestos mining and

manufacturing occupations. It was confirmed in 1935 that asbestos exposure is a cause of lung cancer. By 1946 it was known that the only cause of mesothelioma was asbestos exposure and that the disease is always fatal.

A direct connection between smoking and increased health risks was identified in 1968. The risk of developing lung disease due to asbestos exposure increases by 50%- 90% depending on the number of packs smoked per day. An asbestos worker who smokes one pack a day has a 50% risk increase.

The first OSHA standard for permissible exposure levels (PEL) for asbestos was set in 1971 at 12 fibers per cubic centimeter based upon an 8 hour time weighted average (TWA). The present PEL standard is set at 0.2 fibers per cc. Short term, high exposure excursion limits are set at 1.0 f/cc measured over one-half hour.

TYPES OF ASBESTOS

Asbestos is a natural mineral and is found in rock formations. When the asbestos is separated from the rock it becomes a fluffy, fibrous material. There are several different types of asbestos. Serpentine is characterized by long flexible fibers which easily sticks to other surfaces. Chrysotile is the most commonly found type of asbestos and amphiboles resists water. Other types of asbestos include amosite, crocidolite, anthophyllite, actinolite and tremolite.

USES FOR ASBESTOS

There are over 3,000 products manufactured which contain asbestos. The major user of asbestos products is the construction industry. The automotive and textile industries have also used asbestos containing materials because of its strength

and unique characteristics. Asbestos has also been used in building materials, insulation and fire prevention products and materials for sound absorption and filtering.

ASBESTOS CLASSIFICATION

Asbestos can be classified into two categories: hazardous and non-hazardous. Asbestos is considered hazardous when it is in a deteriorating condition. This category of asbestos is also considered to be friable. Friable means that it can be easily crumbled from hand pressure to create tiny airborne fibers. In addition, improperly disposed of asbestos waste is considered hazardous.

Non-hazardous asbestos is firmly bonded and non-friable. Asbestos containing material which has been encapsulated is considered non-hazardous.

WHEN ASBESTOS CREATES HEALTH EFFECTS

All asbestos containing materials (ACM) are potentially hazardous. Although firmly bonded and non-friable ACM is considered non-hazardous, it can become hazardous if it is sanded, drilled or sawed which releases asbestos fibers into the air. Renovation or removal activities present the greatest likelihood of generating hazardous conditions. For that reason, special precautions must be taken when working with friable asbestos containing materials.

HEALTH EFFECTS OF ASBESTOS EXPOSURE

Health risks are created when asbestos fibers are inhaled or ingested. Breathing air which contains asbestos fibers and ingestion of fibers from food or drinks which have been exposed to asbestos fibers causes health-hazards.

Fibers accumulate in the lungs and can be carried to other parts of the body through the bloodstream or lymphatic system. Asbestos fibers have very harmful characteristics. The fibers are very sharp, virtually indestructible and can penetrate the tissues and remain there for a long time.

Asbestos hazards are increased by the intensity of the asbestos dust, fiber size, and specific type of asbestos. In addition, individual susceptibility, smoking and presence of other pollutants can increase the health hazards associated with asbestos exposure.

EXPOSURE LEVELS

Asbestos exposure that a worker may be exposed to is stated in terms of the number of fibers per cubic centimeter calculated as an eight hour time weighted average (TWA). A cubic centimeter is like a box with sides of about a half inch.

The Permissible Exposure Level (PEL) is 0.2 f/cc for an 8 hour TWA. This is the level above which you must wear a respirator and protective clothing.

The Action Level is one-half the permissible exposure level or 0.1 f/cc 8 hours TWA. Medical surveillance is required if a worker is exposed at or above the action level for 30 or more days per year.

EFFECTS OF ASBESTOS ON THE BODY

Asbestos which is inhaled or ingested can produce serious health effects. For example, air passes through the mouth and the nose into the windpipe or the trachea. The lungs put oxygen into and remove waste products from the blood in the alveoli. Inhaled asbestos particles enter the lungs and

become lodged in either the alveoli or in the pleural lining. As a result, the lung's natural process for cleaning themselves becomes damaged and the asbestos fibers remain in the lungs. When the linings of the lungs become damaged, inhalation cannot occur properly. With damage, the walls thicken and oxygen from the air is not property diffused to the blood and not properly removed from the blood into the air.

When airborne asbestos fibers are inhaled, a fraction of the fibers may be deposited in the lungs. The accumulation depends on, among other things, the size of the fibers. If this exposure continues over time, large quantities of fibers can accumulate on the linings of the lungs and in other parts of the lung tissue. This accumulation of asbestos fibers can lead to various changes in the lungs, primarily to fibrosis or scar formation which interferes with normal lung functions.

Smoking increases the risk of working with asbestos because smoke deadens some of the body's natural defenses and contains ingredients which can injure lung cells thus making the lungs more susceptible to specific lung injuries. Smoking also causes a series of reactions resulting in the attraction of other inflammatory cells to the lungs.

ASBESTOS RELATED DISEASES

The cumulative abrasive action of asbestos fibers in the lungs over time makes the lungs less flexible and less efficient. This condition results in the disease called asbestosis. All forms of asbestos can cause this disease. Asbestosis has a latency period of 20 to 40 years after exposure. The main symptom of asbestosis is shortness of breath which progressively becomes more severe. Other symptoms include a dry cough, rattles in the lungs, chest tightness and pleural effusions. Asbestosis may show no symptoms even though it is present.

Early diagnosis of asbestosis is possible using chest x-rays. The initial onset of asbestosis is not always life threatening. In advanced stages it becomes totally incapacitating because the lungs cannot function properly. The disease is irreversible and can progress even after the person is removed from exposure situations. There is no available treatment for asbestosis.

Mesothelioma is a cancer of the lining around the lungs or the lining of the abdominal cavity or the lining of the cavity which holds the heart. Exposure to asbestos fibers is the only known cause of this disease. Mesothelioma is caused by a smaller dose of asbestos exposure than other asbestos related diseases and is not affected by smoking. Mesothelioma is only contracted by asbestos workers. In addition, family members can contract the disease from fibers brought home by the worker who did not follow proper decontamination procedures. Mesothelioma has a latency period of 20 to 40 years after exposure. The symptoms include shortness of breath and chest pain. Diagnostic tests include x-rays to identity areas of pleural thickening as well as tissue examinations. There are no effective treatments for mesothelioma and death usually occurs within two years after the onset of the symptoms.

Lung cancer is also caused by asbestos, but it can be treated if detected early. Asbestos workers who smoke have five to nine times the risk for contracting lung cancer that asbestos workers who do not smoke. Lung cancer has a latency period of 20 to 30 years. The lower the exposure, the longer it takes for the disease to develop. The symptoms of lung cancer include a cough or change in coughing habits, chest pain which is not related to coughing and blood streaked saliva. The diagnostic procedures involve regular screening, chest x-rays and pulmonary function testing and pap smears of sputum. Final diagnosis must be confirmed by a biopsy.

The death rate for lung cancer is very high unless the disease is detected and treated early. Treatment includes surgery, drugs, radiation or a combination. Asbestos exposure can also cause cancers of the stomach, esophagus, colon, pancreas. In addition, pleural plaques, pleural effusion and pleural thickening may result from exposure to asbestos containing materials.

PROTECTION AGAINST EXPOSURE

There are a number of ways that you can protect yourself against asbestos exposure. It is very important to follow good engineering controls and use respiratory protection, wear protective clothing, properly dispose of asbestos, conduct air monitoring, have regular medical examinations and stop smoking.

Spouses and children of long term asbestos workers have a higher than normal incidence of asbestosis, lung cancer and mesothelioma than the general population. Special care should be taken to properly decontaminate yourself before leaving the work site.

All employees who will be working with asbestos must be given a free physical examination within thirty days of employment and another exam thirty days after termination. The physician must sign a form indicating that the worker is fit for asbestos work and can safely wear a respirator.

PLAINTIFF'S EXHIBIT 4010

STATE OF NEW YORK
METROPOLITAN TRANSPORTATION AUTHORITY
OFFICE OF THE INSPECTOR GENERAL
JOHN S. PRITCHARD III
Inspector General

STATE OF NEW YORK
DEPARTMENT OF LAW
OFFICE OF THE ATTORNEY GENERAL
ROBERT ABRAMS
Attorney General

Report on Metro-North Commuter Railroad's Handling of Asbestos in Grand Central Terminal

MTA/IG 89-20
September 19, 1989

Introduction

In late 1986 and early 1987, employees of the Metro-North Commuter Railroad (Metro-North) assigned to Grand Central Terminal complained to management about their exposure to asbestos in the workplace. When management took on actin to abate the asbestos and continued to direct the employees to work in unsafe conditions, the workers contacted the Office of the New York State Attorney General. That office contacted the Office of the Metropolitan Transportation Authority Inspector General and the Joint investigation was begun.

The investigation focused on Metro-North's response to the asbestos problems brought to its attention both by its employees and, concomitantly, by an outside consultant

which examined these problems in connection with the planned renovation of the Terminal. We also examined apparent abuses in the contracting process pertaining to abatement work and claims that management retaliated against the workers who had brought the asbestos problems to both its attention and that of outside agencies.

Our detailed findings and recommendations follow. The Appendix discusses relevant asbestos laws and regulations.

Findings

[Redacted]

- Metro-North has no asbestos abatement program covering all of Grand Central Terminal, and has not followed recommendations made by an outside consultant to abate asbestos conditions dangerous to its workforce. Asbestos is abated only incidental to routine maintenance or in connection with Terminal modernization conducted by the Capital Program Division.

- Extensive asbestos contamination has been confined to non-public areas of Terminal. However, small lengths of insulation in certain public areas identified by Metro-North's outside consultant should be inspected and, if found to contain asbestos, either removed or better encapsulated.

- Metro-North has been improperly using emergency contracting procedures in the abatement area since 1987 because it has made no effort to assess the impact of planned, routine maintenance work on existing asbestos. Thus, when such work cannot

proceed safely because it would disturb asbestos, Metro-North simply calls in an asbestos abatement consultant, Envirosafe, Inc., to remove the asbestos on an "emergency basis." This delays planned maintenance and is expensive as well.

- Metro-North has failed to develop an oversight program to ensure that workers are provided with safety equipment and that the equipment is in fact used. Management has also failed to implement a safety equipment maintenance program and to provide a laundry facility.

[Redacted]

- Metro-North has inadequate staff in its Safety Department to deal with safety and health matters concerning toxic materials. Currently only one person is responsible for all safety and health measures regarding toxics, including asbestos and PCBs, throughout the system.

- Metro-North failed to implement in a timely manner worker education and training programs concerning all toxic chemicals, including asbestos, in violation of the State "Right to Know" law.

[Redacted]

Recommendation

We recommend that Metro-North implement the following with respect to asbestos at the Terminal:

1. Metro-North must comply with all applicable New York State regulations pertaining to asbestos.

2. Metro-North must systematically evaluate the asbestos-related problems involved in planned maintenance to be done in Grand Central Terminal. It should also implement the recommendations made by an outside consultant in 1986 with respect to asbestos abatement. As appropriate, non-emergency contracts should be let to address the problems.

3. The Safety Department should be assigned responsibility for all asbestos-related matters, including the reporting of problems, overseeing of abatement work, and formal contract management. Additional Safety staff is needed to insure that the increased responsibility in the Safety Department is addressed. Employment of a full-time asbestos specialist is recommended.

4. Metro-North must abate a larger area around pipe-valves which require maintenance.

5. Laundry facilities should be made available to all workers who may be exposed to asbestos fibers to insure that those fibers are not carried outside the workplace. The facilities should be the sole responsibility of Metro-North and not, as is presently the case, that of the individual workers.

6. All supervisory personnel assigned to the Terminal should be trained to identify asbestos and to prepare them to oversee private contractors' work to insure proper abatement.

7. Management, when making personnel decisions which may reasonably be expected to lead to complaints of retaliation, should keep written, dated records of the history and rationale of such decisions.

Investigation

Grand Central Terminal is a major center for Metro-North's operations. From 1913, when the Terminal was constructed, and through the mid 1970's, asbestos was considered to be one of the best insulating materials available. It was used throughout the Terminal to insulate walls, pipes, and wires. Much of it remains today. By the mid 1970's, however, asbestos had been widely recognized as highly carcinogenic, and legal limits on worker exposure to it were imposed.

Around September 1986, several events transpired which brought to management's attention the problems with asbestos at the Terminal and the necessity for prompt action to deal with these problems. These were a fire at the Terminal, which resulted in citations for asbestos-related violations, worker complaints to management, and the release of a consultant's report pertaining to the infrastructure of the Terminal. Despite being placed on notice about these problems, management took no action for almost one year, a failure which it has never satisfactorily explained.

September 1986 Fire

The fire, which received much public attention, caused extensive damage to the track area of the lower level of the Terminal. Metro-North employees complained to the New York State Department of Labor (DOL) about working conditions in the fire areas.

In response, DOL conducted two inspections, on October 2nd and 15th, 1986, and cited Metro-North for seven asbestos-related violations. These violations were for:

- Failure to accurately monitor the airborne concentrations of asbestos.
- Failure to properly collect and dispose of asbestos.
- Failure to demarcate asbestos work areas to minimize the number of persons within the area and protect others from exposure.
- Failure to limit access to asbestos removal areas to authorized persons.
- Failure to provide warning signs demarcating regulated areas.
- Failure to deal properly with protective clothing.
- Failure to insure that asbestos waste did not accumulate on the floor or fall to the floor.

At that time, Metro-North simply had no policies or procedures regarding the handling of, or public or worker exposure to, asbestos.

Worker Complaints

Besides alerting the DOL, Metro-North employees brought their concerns to the attention of management. Metro-North employees had become more knowledgeable about the hazards involved in exposure to asbestos, due largely to the efforts of the White Lung Association, a victims advocacy group, which the employees had independently contacted.

The employees directed management's attention to the working conditions to which they were subject in the steam

tunnels and Service Plant area and to the health hazards involved. Many of them refused to remove and dispose of asbestos as they were ordered to by management. In addition, their requests for information on asbestos exposure were almost totally ignored. At that time, Metro-North had no "Right to Know" program in place, as required by State law,* to inform workers about hazardous conditions.

In early 1987, Metro-North's Director of Safety personally inspected these areas and observed that insulation around pipes in the Service Plant had torn open and that asbestos was falling to the ground. He observed similar conditions in the steam tunnels.

The Metro-North Safety Department admitted to us that employees did, in fact, bring these matters to its attention in September 1986. However, the minimal actions taken by Metro-North thereafter to correct these problems proved ineffective, and employees continued to work and continued to remove and dispose of asbestos.

In connection with pipe repair work, pipe shop workers were directed to remove asbestos material by simply cutting it away from pipes. These workers referred to themselves as "snowmen" as they were covered with white asbestos powder when they returned from the tunnels where the pipes were located. In addition, their asbestos-coated clothing and boots were worn home, likely exposing their families to the white asbestos powder.

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* See Labor Law §§ 875 *et seq.* A training program is now in place, albeit years late. The program was begun in January 1989 and approximately 50% of Terminal workers have been trained to date.

[Redacted]

1986 Outside Consultant's Report

Also in September 1986, Metro-North management received a consultant's report evaluating the infrastructure of the Terminal. This report, prepared by the firm of Syska and Hennesey, an engineering consulting group, was part of the preparation for the rehabilitation of the Terminal and included a survey to determine the amount of asbestos still in use throughout the Terminal, its condition, and an estimate of abatement costs.

Syska and Hennesey, through a subcontractor, Environmental Health Protection Consulting, Inc., recommended priorities for asbestos abatement. Their priority ranking was based upon factors including potential health risks, whether a given location was designated for capital rehabilitation and the extent of public access to the affected area.

Very little of the insulation in public areas of the Terminal was found to be composed of asbestos containing materials. However, some small amounts of insulation appeared to be damaged, and if containing asbestos, could pose a threat of exposure to the public. While inspection and either removal or repair was not given a high priority by the consultants, it does not appear that these limited potential problem areas have been addressed by Metro-North.

The steam tunnels and Service Plant, the areas of most concern to the employees, were not ranked as top priority areas in the consultant's report because they were not scheduled for rehabilitation and were not accessible to the general public. Nevertheless, the report noted that the Service Plant contained exposed and friable (dried out and crumbling) asbestos insulation covering pipes and elbow

joints, and recommended "quick action" to deal with continued employee exposure.

Specifically, the report stated in regard to the Service Plant:

> . . . . numerous pipes and elbows have exposed friable areas that pose a *significant potential contamination hazard for the workers in this area* . . . . A program must be established to - at a minimum - repair the damaged sections of insulation with a long term project to remove the (asbestos containing material) altogether. *The fact that workers are exposed to these materials daily warrants quick action to minimize exposure and insure that the workers health is not endangered.* (Emphasis added).

Thus, despite being placed on notice of dangerous asbestos conditions in the Terminal by worker complaints, DOL inspections and its own consultant's report, Metro-North took no action to correct the problems in the Service Plant until the summer of 1987.

No plan for abatement was created. Employees continued to work with asbestos crumbling from pipes and walls and falling down on them and accumulating on the floor around them. They were still directed to remove asbestos and dispose of it as regular waste.

Indeed, Metro-North even failed to correct the violations found by DOL. The DOL, following up on its finding of violations in October 1986, returned again on May 22nd and June 12th, 1987 for compliance checks to determine if the asbestos violations had been corrected. According to the

DOL, the violations remained uncorrected and the workers continued to face the uncorrected conditions. Metro-North responded by claiming that the violations had in fact been corrected and what the DOL found were new violations. However, Metro-North had no documentation to support its claim and the DOL insisted that its findings were, in fact, correct.

Subsequent to September 1986, numerous confrontations occurred between employees and Metro-North management, as the employees continued to press their claims that they were being subjected to a significant health risk on a daily basis. As a result, in June 1987, Metro-North reached an understanding with Envirosafe Inc., to carry out emergency asbestos removal work although no formal contract was signed.

[Redacted]

Abatement Work by Envirosafe

In the summer of 1987, Envirosafe began to correct the asbestos problems existing in the Service Plant. However, the President of Envirosafe told us that Metro-North management was only interested in what he characterized as a short term, cheap approach to the problem. As a result, Envirosafe, rather than removing or encapsulating the flaking asbestos, wrapped the pipes with tape, and warned Metro-North Operations and Safety personnel that the tape would melt when the steam was turned on. This is precisely what occurred in the fall of 1987. As a result, asbestos fibers were again released into the air.

Metro-North defended its decision to use a short term, inexpensive approach because of its future plans to modernize the Service Plant. However, Metro-North management

admitted to us that such modernization is "years away," extending well into the 1990's.

After months of workers' complaints, Envirosafe returned in February 1988 and permanently encapsulated the insulation on those pipes where the duct tape had failed. However, as recently as January 1989, our staff observed duct tape falling from other pipes in the Service Plant. It is clear that Metro-North has simply failed to secure the effective abatement of all damaged insulation in the Service Plant.

When Envirosafe abates asbestos in connection with routine pipe valve maintenance in the steam tunnels, it does so only in the immediate area of the valve, as requested by Metro-North. When the pipe workers subsequently perform their maintenance duties, they frequently collide with nearby unabated pipes, thereby disturbing asbestos.

the pipe workers to this day leave the steam tunnels with asbestos powder on their clothes and bodies.

The only solution to this problem is for Metro-North to require Envirosafe to abate a larger area around the valve requiring maintenance.

Other Contracting Problems

Metro-North does not have trained personnel who can evaluate abatement contractors' work to ensure it is being done properly. The Safety Department has recommended that Operations staff at or above the level of Supervisor be trained to recognize both hazardous asbestos conditions and improper removal techniques. Supervisory asbestos training. which differs from training of asbestos handlers, is available. While handler training may be useful, Safety does not believe

it is necessary for a supervisor. Since our investigation began, Operations personnel at or above the supervisor level have begun to be trained. However, there is no coordination between Safety and Operations on this issue and in fact the Safety Department has not been informed who has been or is being trained.

An attempt was made by the Terminal General Superintendent, in September 1987, to secure a contract for an on-call contractor to handle emergency abatement work in the Terminal. Contracts Administration was assigned in November 1987 to develop a procurement plan. After reviewing the Superintendent's requisition, it requested either a scope of work or specifications from him. However, in insisting that all abatement work was of an "emergency" nature, the Superintendent said he would need a "crystal ball" to develop a scope of work. In January 1988, he finally agreed to draft specifications. However, he never did so and instead he requested that Contracts examine the New York City Transit Authority's (TA) abatement program. Contracts obtained the TA proposal but, Contracts informed us, without the appropriate specifications from the Superintendent, it was unable to proceed. The Superintendent initiated no further contact with Contracts until March 17, 1988, one day after we raised questions about contracting procedures. Subsequently, the TA proposal was circulated.

The Superintendent claims, erroneously, that the current Capital Programs contract with Princeton Testing Service, which does asbestos assessment work, is a cumulation of his work in this area. In fact the Princeton contract deals solely with the assessment of asbestos related to Capital Programs and does not require Princeton to do any abatement work.

[Redacted]

Conclusion

Our investigation has disclosed that Metro-North has seriously disregarded the health and safety of its workers.

Metro-North's failings are particularly egregious for it was placed on notice of asbestos problems through complaints by its workers, inspections by DOL and its own consultant's report. We also found problems in the contracting process related to asbestos. Finally, we found that certain personnel decisions provided the appearance of retaliation for lawful, protected worker activity pertaining to asbestos problems.

Metro-North's adoption of the recommendations made in this report will enable it to correct these problems.

PLAINTIFF'S EXHIBIT 2403

EHPC

Environmental Health Protection Consultants, Inc.

REPORT ON ASBESTOS ABATEMENT STUDY OF GRAND CENTRAL TERMINAL

2/19/86
to
4/29/86

3.1 UTILITY LEVEL

The majority of the asbestos containing material ("AC") found in GCT is located on this level. The areas studied included the steam tunnel system, kit room and associated spaces (located on the south end of the analysis of 180 separate bulk samples indicates that the vast majority of the insulation in these areas contains asbestos - as Amosite, Chrysolite and Crocidolite - in percentages from 2 to 30 percent).

3.1.3 STEAM TUNNEL SYSTEM

As mentioned the majority of the asbestos-containing insulation in GCT is found in the network of tunnels running from 43rd street to 48th street under the Suburban Platforms. With the exception of the 45th Street Trucking Subway, most of these areas are unoccupied. The original function of these tunnels was to supply steam for use in heating railway cars. The following areas were specifically studied in detail:

- 43rd Street Trucking Subway (Burma Road)
- 45th Street Trucking Subway

- 48th Street Steam Tunnel
- West Steam Tunnel
- East Steam Tunnel (running under Track 100)

The bulk of the ACM in these areas is used to cover 16" high pressure steam lines. In most of the tunnels three to six of these pipes run for distances of 200 to 300 linear feet. The percentage of asbestos (primarily Chrysotile) found in samples taken from these areas range from 10 to 15%. The insulation is generally one to three inches thick, and is reinforced with "wire lathe"; which will add to the difficulty of removal. Generally, the straight runs of these pipes have insulation which is intact. Areas where the pipes bend into new tunnels are the primary sites of damage (one such area is located at the junction of the 43rd street and West tunnels).

With the exception of the East Tunnel, access for the removal of insulation in most of the tunnels is good (Access Factor 1.0 with the East tunnel being 1.5). The low ceiling and closeness of the pipes in the East tunnel would create difficulties in removal. In addition, many of the 16" pipes are active, and removal work would pose a burn hazard and create a hot environment that may result in heat stress problems for any removal workers. (Additionally, the tunnels are often occupied by "street people" that make the establishment of secure removal containments difficult.) The quantity of material to be removed right also present a unique problem in the logistics of waste transport.

Because of the amount of ACM and the limited access to the steam tunnels, it is advisable that these areas be a low priority. If a removal is anticipated, the 45th street tunnel would be a good candidate this area is good. As for the other areas, it is recommended that a long-term, phased removal or encapsulation - strategy be considered.

DECISION OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK DATED MARCH 13, 1995

MICHAEL BUCKLEY, Plaintiff,

v.

METRO-NORTH COMMUTER RAILROAD, Defendant.

No. 89 Civ. 7170-A(WK).

United States District Court,

S.D. New York

March 13, 1995.

WHITMAN KNAPP, Senior District Judge.

This is a case brought under the Federal Employers Liability Act ("FELA") by one of the "snowmen of Grand Central Terminal" for negligent infliction of emotional distress caused by defendant Metro-North's negligent exposure of plaintiff to asbestos from June of 1985 to early September, 1987. Because defendant had conceded negligence, the only issues at trial were causation and damage. At the close of plaintiff's case, defendant moved for a directed verdict. Because we find that plaintiff failed to prove that he had sufficient impact with asbestos to result in a reasonable fear of developing an asbestos-related disease; and because he failed to prove that he had suffered a real emotional injury, we grant defendant's motion and direct a verdict in its favor.

Statement of the Facts

Drawing all reasonable inferences in plaintiff's favor, the relevant facts are as follows: Plaintiff Michael Buckley is a 39-year-old pipefitter who has worked for Metro-North at Grand Central Terminal since 1985. When Buckley was first hired as a pipefitter, Metro-North ordered him to work in the network of steam tunnels that run beneath Grand Central Terminal. There are miles and miles of pipes in those tunnels, covered with white insulation.

As a pipefitter, Buckley was assigned to repair and maintain these pipes. To do so, Buckley would have to remove the old white insulation from the pipe he was working on. He would take whatever tools he had available--a hammer, axe, wire shears--and pound the insulation away from the area where he had to work. As he did so, the insulation would break apart and fall to the floor. Buckley would kick it aside to get it out of his way, releasing clouds of white insulation dust into the air. He would become covered with this dust--it would get into his hair, his face, his mouth, his nose, his clothes. He would come up from the steam tunnels literally covered from head to toe with white insulation dust. Thus the nickname "snowman of Grand Central."

Most of this white insulation dust was asbestos, a known cancer-causing substance. Over a three-year period, from June of 1985 to June of 1988, Buckley worked on average for one hour a day actually removing and handling this insulation. Metro-North admits that it knew asbestos was present in Grand Central Terminal and that it knew of the hazard that working with and around asbestos posed to the health of its employees. It admits that it negligently exposed plaintiff to asbestos from June 1985 until early September of 1987. Metro-North admits that during this period it did not

warn plaintiff that he was being exposed to asbestos, nor did it provide training for him on how safely to handle asbestos.

On August 31, 1987, Metro-North sent Buckley and his co-workers to an all-day asbestos awareness class. There, Buckley was told that the insulation he had been working with was asbestos, and that asbestos exposure causes painfully deadly diseases such as lung cancer, mesothelioma and asbestosis. At that class, Buckley was shown how to remove asbestos insulation, and was given a half-face respirator that was not fit-tested. He was also shown two videotapes: one of men lying in hospital beds gasping painfully for air as they slowly died from asbestos disease; and another that indicated that smoking contributed to the risk of developing lung cancer, and that smokers who work with asbestos could cut their risk of developing cancer by a significant amount if they quit smoking. Buckley has a history of smoking about a pack a day since he was seventeen. In 1991, Buckley cut down to an average of one cigarette a day, which is what he now smokes.

Subsequent to learning about his exposure to and the dangers of asbestos, Buckley contacted the law firm of Cahill, Goetsch and DiPersia, which he retained to represent him in this law suit. In 1990 and again in 1994, one of the lawyers sent him to the Mount Sinai Occupational and Environmental Health Clinic. There, he was examined by Dr. Steven Markowitz, who gave expert testimony that as a result of Buckley's exposure to asbestos, he has a 1 to 3 percent increased risk of dying from asbestos-related cancer, and a 10 percent increased risk of developing scarring of the lining of the lungs. He further testified that it takes 20 to 40 years for clinical signs of asbestos disease to develop, and that Buckley currently showed no physical signs of asbestos exposure. He recommended that Buckley continue to be medically monitored for future signs of asbestos-related

disease. Another professor from Mount Sinai, Dr. William Nicholson, also examined Buckley and testified that Buckley's risk of dying from cancer as a result of his asbestos exposure has been increased by between 1 and 5 percent.

Buckley brought this law suit seeking the cost of his past and future medical monitoring expenses and for negligently inflicted emotional distress, consisting of loss of peace of mind, anxiety, fear of the future, anger, worry and distress due to his increased risk of dying from cancer.

Physical Impact

Taking all the facts plaintiff alleged as true, there is not sufficient evidence to allow a jury to find that plaintiff has had the requisite physical impact or fear of physical impact to warrant a finding of negligent infliction of emotional distress. On this question, there is no categorical authority. Rather, there are a number of guideposts. The most recent and authoritative of these is the Supreme Court's July, 1994 opinion, *Consolidated Rail Corporation v. Gottshall* 114 S.Ct. 2396, in which the Court established that negligent infliction of emotional distress is an action cognizable under the Federal Employers' Liability Act ("FELA"). In so holding, however, the Court indicated its concern that "recognition of a cause of action for negligent infliction of emotional distress holds out the very real possibility of nearly infinite and unpredictable liability for defendants." *Id.* at 2405.

To avoid such a result, the Court placed "substantial limitations on the class of plaintiffs that may recover for emotional injuries, and on the injuries that may be compensable." *Id.* at 2405. The Court indicated that one such limitation would be the common law "zone of danger" test:

> Under this test, a worker within the zone of danger of physical impact will be able to recover for emotional injury caused by fear of physical injury to himself, whereas a worker outside the zone will not. Railroad employees thus will be able to recover for injuries--physical and emotional--caused by negligent conduct of their employers that threatens them imminently with physical impact."

Id. at 2410.

The Second Circuit followed *Gottshall* in *Marchica v. Long Island Railroad Co.* (2d. Cir. 1994) 31 F.3d 1197. In that case, the court found that a railroad employee whose finger had been penetrated by a needle and subsequently suffered a fear of contracting the AIDS virus could recover on a claim of negligent infliction of emotional distress. In so holding, the court reasoned that plaintiff had met the *Gottshall* "zone of danger" test because plaintiff had actually suffered a physical injury: a hypodermic needle had penetrated his body. The court went on to note, however, that "had Marchica merely touched the discarded needle and become concerned about the possibility of developing AIDS, the case would stand on a very different footing." *Id.* at 1204.

Clearly, the Second Circuit was mindful of the Supreme Court's concern of creating infinite liability for defendants. Much of the opinion focuses on various means of assessing the genuineness of a claim for negligent infliction of emotional distress absent a physical injury. In such a case, where no physical injury has occurred, the court suggested that proof of exposure to a contaminated substance was a "substitute means for providing a guarantee of the merits of a plaintiff's claim." *Id.* at 1204. Only with such evidence of

exposure can plaintiff show that fear of developing a disease related to the contaminated substance is reasonable. Relying on other "fear-of-developing-disease" cases, the court adopts the proposition that "the exposure requirement--plus actual likelihood of developing the disease-- ... is a means of ensuring the genuineness of the claim." *Id.* at 1205. *See also Doner v. Admans Contracting Inc.* (A.D. 3 Dep't. 1994) 617 N.Y.S.2d 565, 566 ("Mental anxiety occasioned by the fear of developing a disease is not considered reasonable unless there is, at the very least, some evidence substantiating both actual exposure to the disease-causing agent ... and a likelihood of contracting the disease as a result").

The case at bar, like that envisioned by the *Marchica* court, is "on very different footing." Here, there was no physical injury analogous to being pricked by a hypodermic needle. Therefore, we must consider the Second Circuit's other means of assessing the genuineness of plaintiff's claim: whether plaintiff can show proof of exposure to asbestos such that there was a sufficient likelihood of contracting a disease to make plaintiff's fear reasonable. On the present record, he has made no such showing.

There is plenty of evidence in this case that plaintiff was around asbestos, even touched by asbestos. But there is no proof, assuming that he had occasionally inhaled asbestos, that he inhaled enough to create a reasonable fear of developing an asbestos-related disease.** Plaintiff's own expert, Dr. Nicholson indicated that determining an individual's actual exposure to asbestos is "fraught with difficulties because it depends upon individual sensitivity and the

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** For the purposes of this case, "exposure" to asbestos should be understood to mean "inhalation" of asbestos, for it is only inhalation that leads to asbestos-related disease.

uncertainties of the time course of the individual's exposure." (469-70). This is hardly evidence of actual exposure and actual likelihood of developing a disease. Thus there is no way for a jury to determine whether plaintiff's alleged fear of developing the disease was reasonable.

The Supreme Court and the Second Circuit are unequivocal in holding that these tests to determine the genuineness of plaintiff's claim must be met. In the case at bar, plaintiff does not fall within the zone of danger as envisioned by the Supreme Court or the Second Circuit: he has not sustained a physical injury; and he offered no evidence to establish that he was sufficiently exposed to asbestos to create a reasonable fear of developing an asbestos related disease. Thus the claim fails as a matter of law.

Emotional Injury

Even if plaintiff had been able to establish that he fell within *Gottshall's* zone of danger, he did not offer sufficient evidence to allow a jury to find that he suffered a real emotional injury.

On this question, no specific form of proof, such as medical testimony, is required. However, the cases dealing with the subject tell us is that there is need for some objective evidence, apart from the plaintiff's own testimony concerning his or her own supposed agony. For example, in *Miner v. City of Glens Falls* (2d. Cir. 1993) 999 F.2d 655, plaintiff was a police officer who lost his job, allegedly without due process. The court found that plaintiff could recover on a claim for negligent infliction of emotional distress because in addition to plaintiff's own testimony of feeling inadequate, embarrassed, anxious and exasperated to such a degree that he contemplated suicide, the court found that

> the anguish he described has some objective correlation with events described by [plaintiff] and by his wife: loss of their house, family tensions, certain potentially demeaning aspects of a former police officer having to seek benefits.

Id. at 663.

Plaintiff in the case at bar provides no analogous objective evidence. Despite the emotional distress plaintiff claims, he continued working in the Grand Central Terminal even though it is undisputed that he could have transferred to any one of several asbestos-free facilities where both he and his father had previously worked. Moreover, even after being warned by a doctor and viewing the videotape about smoking, plaintiff continued to smoke cigarettes "whenever I feel like having one." (773). The only objective fact to which plaintiff testified was that he lost his temper more frequently with his wife, but even that he conceded was related in part to the instant law suit. Moreover, unlike the situation in *Miner*, his wife gave no testimony in support of this claim.***

Dr. Markowitz, who examined plaintiff for almost two hours and was trained in psychology, did not refer plaintiff either to a psychologist or to a social worker. When asked

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*** Plaintiff testified that following the asbestos awareness class in late 1987, he had expressed his anger and concern over what had happened to him by complaining to his Metro-North foremen, supervisors, superintendents, and ultimately to the MTA Inspector General's Office. However, as with the evidence concerning plaintiff's arguments with his wife, no corroborative testimony was offered.

by the Court why he did not make such a referral, he responded that "if [plaintiff] had displayed that level of concern to me I might have considered [referring him to a counselor]. I might have said, well, you ought to get some counseling about this. But I didn't see it." (549)****

Thus, because plaintiff has offered no objective evidence by which a jury could determine that he had suffered a real emotional injury, his claim for negligent infliction of emotional distress must also be dismissed.

SO ORDERED.
New York, New York
March 13, 1995

**** this response was given to a question posed out of the presence of the jury, but is nonetheless part of the record.

STIPULATION TO SUPPLEMENT THE RECORD ON APPEAL

(Title omitted in printing)

STIPULATION TO SUPPLEMENT
THE RECORD ON APPEAL

By and through their respective counsel, the parties in this appeal hereby stipulate as follows:

1. Appellant Michael Buckley ("Buckley") filed this appeal following entry of judgment in favor of appellee Metro-North Commuter Railroad ("Metro-North") following the trial in *Buckley v. Metro-North Commuter Railroad*, U.S.D.C., S.D.N.Y. NO. 89 Civ. 7170 (WK).

2. During the trial of this matter, Buckley introduced the following documents which were marked for identification and received in evidence at trial:

(a) NY AG/MTA IG Joint Report on Asbestos at GCT dated September 19, 1989 (excerpts read to jury) [originally marked as Plaintiff's Exhibit 4010]

(b) Metro-North's EHPC Report on Asbestos at GCT dated June 18, 1986 [originally marked as Plaintiff's Exhibit 2403]

(c) Palmer letter to Muro dated November 5, 1987 [originally marked as Plaintiff's Exhibit 0030]

(d) Excerpt from p. 3 of McHale Memo to Mahoney dated September 3, 1987 regarding

glove bag use (read to jury) [originally marked as Plaintiff's Exhibit 0002]

(e) Memo from Palmer to Seaboldt dated December 6, 1988 with list of locations attached (except for last paragraph on p. 1 redacted) [originally marked as Plaintiff's Exhibit 2429]

(f) Photographs of GCT tunnels [originally marked as Plaintiff's Exhibit 4040]

(g) Metro-North's Training Class "OSHA Awareness Manual" [originally marked as Plaintiff's Exhibit 2051]

(h) Schematic diagram of GCT tunnel system [originally marked as Plaintiff's Exhibit 4020-A]

(i) OSHA asbestos regulations title page and p. 37 excerpts regarding "competent person" and "PEL" [originally marked as Plaintiff's Exhibit 0099]

(j) Metro-North ambient air test results at GCT from January 1985 to June 1988 [originally marked as Plaintiff's Exhibit 0028]

(k) Videotape from Metro-North's asbestos awareness class [originally marked as Plaintiff's Exhibit 0029]

(l) Admitted and Stipulated Facts (as read to jury) [originally marked as Plaintiff's Exhibit 0001]

(m) Metro-North's Galston Survey of Asbestos in the Grand Central Steam Tunnels [originally marked as Plaintiff's Exhibit 4000]

3. In addition, during the trial Buckley sought to introduce the following documents which were marked for identification and/or offered but which were not received in evidence at trial:

(a) Full NY AG/MTA IG Report dated September 19, 1989 as redacted pursuant to J. Knapp's rulings prior to trial [originally marked as Plaintiff's Exhibit 4010]

(b) Cover page of Memorandum dated October 20, 1989 from Mahoney to Nelson regarding Burma Road and Bungalow area [originally marked as Plaintiff's Exhibit 2134]

(c) October 8, 1987 Asbestos Survey of Grand Central Terminal Pipe Tunnels prepared for Metro-North Superintendent Robert Gropper [originally marked as Plaintiff's Exhibit 1178]

(d) Excerpt from McHale Memo to Mahoney at p. 3 regarding "Competent person" and at top of p. 4 regarding asbestos removal [originally marked as Plaintiff's Exhibit 0002]

(e) Metro-North Requisition dated September 22, 1987 regarding asbestos removal in GCT [originally marked as Plaintiff's Exhibit 1078]

(f) Meloney letter dated May 1, 1987 [originally marked as Plaintiff's Exhibit 0050]

4. During the trial Metro-North offered and introduced the following documents which were marked for identification and received in evidence at trial:

(a) Letter dated February 17, 1988 from Dr. Steven B. Markowitz to Ronald Motley re availability of Dr. Markowitz serving as expert witness (originally marked as Defendant's Exhibit "A")

(b) Chart indicating the risk of exposure to lung cancer comparing non-smoker to smoker (originally marked as Defendant's Exhibit "C")

(c) Handwritten notes of R.F. Gropper (Superintendent of Utility Maintenance at Metro-North) (originally marked as Defendant's Exhibit "D")

(d) Letter dated July 7, 1987 from R.F. Gropper to Michael Buckley regarding attendance problems (originally marked as Defendant's Exhibit " E")

(e) Respirator training program attendance roster dated February 17, 1987 (originally marked as Defendant's Exhibit "F")

(f) X-ray release signed by plaintiff dated January 16, 1990 (originally marked as Defendant's Exhibit "G")

(g) X-ray report dated November 6, 1992 (originally marked as Defendant's Exhibit "H")

5. The parties agree that the exhibits listed in paragraphs 2, 3, and 4 above shall be deemed included in the record on appeal and also agree that such exhibits may be included in the appellate Appendix. These exhibits are in the custody of counsel for the respective parties and shall be promptly made available to the Second Circuit Court of Appeals upon request.

Dated: New Haven, Connecticut
June 7, 1995

(Jurat omitted in printing)

DECISION OF THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT DATED APRIL 1, 1996

UNITED STATES COURT OF APPEALS
For the Second Circuit

No. 608 -- August Term, 1995

(Argued: December 8, 1995 Decided: April 1, 1996)

Michael BUCKLEY,

Plaintiff-Appellant,

v.

METRO-NORTH COMMUTER RAILROAD,

Defendant-Appellee.

Before:

FEINBERG and OAKES,
Circuit Judges.*

Appeal from the judgment as a matter of law granted by the United States Court for the Southern District of New

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* Honorable Guido Calabresi, C.J., heard oral argument but later disqualified himself and did not participate in the decision of this court.

York, Whitman Knapp, Senior Judge, in favor of Appellee on Appellant's claims for negligent infliction of emotional distress and medical monitoring arising under the Federal Employer's Liability Act, 45 U.S.C. §§ 51 *et seq.* (1994).

Vacated and remanded.

Charles C. Goetsch, New Haven, CT
(Cahill Goetsch & DiPersia, P.C., of counsel),
for Plaintiff-Appellant.

William G. Ballaine, New York, NY
(Mark S. Landman, Lisa S. Rabinowitz,
Ann Marie Collins, Siff Rosen P.C., of counsel),
for Defendant-Appellee.

OAKES, *Senior Circuit Judge*:

Michael Buckley ("Buckley") appeals from the judgment as a matter of law granted by the United States District Court for the Southern District of New York, Whitman Knapp, *Senior Judge*, in favor of Metro-North Commuter Railroad ("Metro-North"). Buckley claims negligent infliction of emotional distress and medical monitoring costs arising under the Federal Employers' Liability Act, 45 U.S.C. §§ 51 *et seq.* (1994) ("FELA"), for asbestos exposure Buckley suffered while working as a Metro-North pipe fitter in Grand Central Terminal. Buckley claims the district court erred in refusing to submit his negligent infliction of emotional distress claim to the jury and in failing to address his claim for medical monitoring. For the reasons stated below, we vacate and remand.

BACKGROUND

In reviewing the district court's judgment as a matter of law in favor of Metro-North, we consider the facts in the light most favorable to Buckley, the non-moving party. *Purgess v. Sharrock*, 33 F.3d 134, 140 (2d Cir.1994).

Buckley, who is 41 years old, has worked for various railroad companies in different capacities since the early 1970s. In June 1985, he began to work for Metro-North as a pipe fitter, repairing and maintaining the labyrinth of pipes in the steam tunnels of Grand Central Terminal in New York City. These pipes were covered with a white insulation material that Buckley and the other pipe fitters needed to remove before performing any repair or maintenance work. Buckley would hammer, cut, and pull the insulation material, using any tools on hand, in order to expose the pipe. The insulation, a dry, dusty sort of material, would break apart as it was removed, scattering particles into the air--"just like taking baby powder and shaking it," as Buckley said. Fans used to make bearable the intense heat of the steam tunnels would further spread dust from the pieces of insulation that accumulated on the floors of the tunnels. During the work day, this dust would cover Buckley's skin and clothes and enter his nose and mouth, so that he could taste the chalky insulation material. Because Buckley and the other pipe fitters would emerge from their daily duties in the tunnels covered head to toe with white powder, they were dubbed the "snowmen of Grand Central."

The insulation material that Buckley was exposed to during his work day for roughly three years was asbestos, widely recognized as a carcinogen since the mid-1970s. Metro-North admitted that it knew the insulation was composed of asbestos and that asbestos can cause cancer. In fact, Metro-North had been cited for asbestos-related viola-

tions in September 1986 following a fire in Grand Central Terminal. Metro-North further admitted that, despite its knowledge of the problem, it did not warn Buckley that the substance covering him when he emerged from the tunnels was asbestos, nor did it train him regarding safe handling of asbestos.

On August 31, 1987, nearly a year after the fire and the asbestos citations, Metro-North finally required that pipe fitters attend an asbestos awareness class. At this class, Buckley learned of the asbestos in the pipe insulation. He was told that asbestos is a substance that can cause painful, debilitating, and often deadly disease such as asbestosis, lung cancer, and mesothelioma, a cancer of the pleura that lines the outside of the lungs. He viewed videotapes depicting people suffering from these diseases. He received instruction on asbestos removal by the "glove bag" method and was given a half-face respirator. The respirator, however, was not fit-tested. He was also shown a video that explained that smoking increases one's risk of lung cancer, and that smokers exposed to asbestos can decrease their risk of lung cancer if they quit smoking.

Buckley attempted to use the half-face respirator at work, but it fit poorly and slid down his face as he perspired in the intense heat of the steam tunnels. He also attempted to use the glove bag method of removal, but the plastic bags used to isolate the asbestos during the procedure would melt on the hot pipes after the insulation was removed, spilling out the asbestos that was supposed to be safely contained in the bags. In 1991, Buckley, who had smoked heavily since he was seventeen, cut down his smoking to an average of one cigarette a day.

After learning of the asbestos in the insulation, the pipe fitters wrangled with Metro-North over the issue of

safety. They also contacted the White Lung Association, an advocacy group for victims of asbestos exposure, to inform themselves about the hazards of asbestos. When their complaints to Metro-North management went unresolved, the workers contacted the Office of the New York State Attorney General, which investigated Metro-North in conjunction with the Inspector General of the Metropolitan Transit Authority. Because he "wanted Metro-North to be held accountable for what they did," Buckley contacted a law firm to pursue a case against Metro-North, as did as many as 140 other asbestos-exposed workers. Buckley's case was set up as a "test case" for the claims of all of the workers.

Buckley's attorney referred him to the Mount Sinai Occupational and Environmental Health Clinic for a medical evaluation. He was examined by Dr. Steven Markowitz and Dr. William Nicholson, who both testified as experts at trial. The doctors noted that Buckley currently showed no signs of asbestos-related diseases, but explained that the latency period for these diseases is not less than ten years and commonly ranges between 20-40 years. The doctors stated that Buckley was exposed to extremely high levels of asbestos as a pipe fitter for Metro-North, and agreed that, as a result of the asbestos exposure, Buckley suffered an increased risk of dying from an asbestos-related cancer. Dr. Markowitz characterized the increased risk as "significant," and, when pressed, quantified the increased risk as one to three percent. Dr. Nicholson quantified the increased risk as one to five percent, and stated that in his opinion there was a reasonable scientific basis to fear that Buckley will develop an asbestos-related cancer. Dr. Markowitz further noted that Buckley suffers a ten percent higher risk of developing scarring of the lining of the lungs due to on-the-job asbestos exposure.

Dr. Markowitz pointed out that Buckley's exposure could not be documented by x-ray until scarring developed, and a biopsy of the lungs could not be conducted because live tissue samples are not performed until disease has developed. In Dr. Markowitz's opinion, though, while working with the dry, chalky insulation, Buckley inhaled a great deal of thin, needle-like asbestos fibers that have lodged in Buckley's lungs and could create grave health problems later in life. He recommended that Buckley continue to be medically monitored for future signs of asbestos-related diseases, noting that early detection of some of these diseases, such as lung cancer, could improve Buckley's prognosis.

Buckley testified that he is fearful of developing an asbestos-related disease. He is angry at Metro-North and no longer trusts his employer to provide a safe workplace. He said that because of the asbestos exposure he worries about his future, becomes upset when he sees media reports about asbestos, and is overprotective of his young son. He has not, however, undergone any psychiatric treatment for his fears. As he stated, "[w]hat is a psychiatrist going to do for me? What is he going to tell me? I am not going to die? Is he going to tell me not to worry about it?"

After denying Metro-North's motion to dismiss, the district court directed that the case proceed to trial. *See Giammona v. Metro-North Commuter R.R.*, 750 F. Supp. 662 (S.D.N.Y. 1990). In 1994, Buckley became the test plaintiff for the claims of all the exposed employees, and a jury trial commenced in February 1995. Because Metro-North conceded negligence, only the issues of causation and damages were placed before the jury. At the close of Buckley's case, and before Metro-North commenced its case, Metro-North filed a motion for judgment as a matter of law pursuant to Federal Rule of Civil Procedure 50(a). The court granted Metro-North's motion and dismissed the jury.

DISCUSSION

Buckley contends the district court erred when it entered a judgment as a matter of law in favor of Metro-North at the close of Buckley's case. He asserts that his claim of negligent infliction of emotional distress and his claim for medical monitoring costs should have been submitted to the jury.

A district court may grant a judgment as a matter of law pursuant to Federal Rule of Civil Procedure 50 only if no reasonable jury could find for the non-moving party. *Samuels v. Air Transport Local 504*, 992 F.2d 12, 14 (2d Cir. 1993). There must be "such a complete absence of evidence supporting the verdict that the jury's findings could only have been the result of sheer surmise and conjecture." *Id.* (quoting *Mattivi v. South African Marine Corp., "Huguenot,"* 618 F.2d 163, 168 (2d Cir. 1980)). In examining a motion for judgment as a matter of law, the court "must view the evidence in a light most favorable to the nonmovant and grant that party every reasonable inference that the jury might have drawn in its favor." *Purgess*, 33 F.3d at 140.

In reviewing a judgment as a matter of law, we apply the same standard as the district court. *In re Joint Eastern & Southern Dist. Asbestos Litigation*, 52 F.3d 1124, 1131 (2d Cir. 1995). Here, we must determine whether the district court correctly concluded that no reasonable jury could have found for Buckley on his claim of negligent infliction of emotional distress under FELA.

Section 1 of FELA, 15 U.S.C. § 51 (1994), states:

> Every common carrier by railroad while engaging in commerce ... shall be liable in damages to any person suffering injury while

> he is employed by such carrier in such commerce ... for such injury ... resulting in whole or in part from the negligence of any of the officers, agents, or employees of such carrier.
>
> . . .

Congress designed FELA as a "broad remedial statute" for railroad workers injured on the job because of employer negligence. *Atchison, Topeka & Santa Fe Ry. Co. v. Buell*, 480 U.S. 557, 561-62, 107 S.Ct. 1410, 1413-14, 94 L.Ed.2d 563 (1987). As the Supreme Court has noted, "[a] primary purpose of the Act was to eliminate a number of traditional defenses to tort liability and to facilitate recovery in meritorious cases." *Id.* at 561, 107 S.Ct. at 1413. However, "[o]nly to the extent of these explicit statutory alterations is FELA 'an avowed departure from the rules of the common law.' " *Consolidated Rail Corp. v. Gottshall*, ___ U.S. ___, 114 S.Ct. 2396, 2404, 129 L.Ed.2d 427 (1994) (quoting *Sinkler v. Missouri Pacific R.R. Co.*, 356 U.S. 326, 329, 78 S.Ct. 758, 762, 2 L.Ed.2d 799 (1958)). In other respects, the common law retains "great weight" in any judicial consideration. *Id.*

By the plain language of the statute, a "common carrier by railroad" is liable if one of its employee is injured due to the negligence of the common carrier. There is no dispute that Metro-North, a carrier by rails engaged in interstate commerce, employed Buckley. Furthermore, Metro-North has conceded negligence. Thus, this case turns upon whether Buckley's claim of emotional harm suffered as a result of Metro-North's negligence is an injury compensable under FELA.

I. Negligent Infliction of Emotional Distress

In *Gottshall,* the Court stated that "[b]ecause FELA is silent on the issue of negligent infliction of emotional distress, common-law principles must play a significant role in [a court's] decision." *Id.* at 2404. The common law in nearly every state, the Court found, allows plaintiffs to bring claims for negligent infliction of emotional distress and therefore such claims are cognizable under FELA. *Id.* at 2405.

The Court recognized that because "[t]he incidence and severity of emotional injuries are ... more difficult to predict than those of typical physical injuries[,] ... negligent infliction of emotional distress [claims] hold [ ] out the very real possibility of nearly infinite and unpredictable liability for defendants." *Id.* For this reason, the Court noted, the common law has sought to limit recovery for negligent infliction of emotional distress. Some jurisdictions allow recovery only to those whose emotional distress stemmed from a physical impact; others allow recovery to those who, though suffering no physical impact, were within the zone of danger; and still others allow recovery to those who, though not within the zone of danger, witnessed the death or severe injury of a relative. *See id.* at 2406-07.

The Court analyzed these common-law restrictions on negligent infliction of emotional distress claims and adopted the zone of danger test as a proper limitation on recovery, balancing the concern for predictable liability with the broad remedial nature of FELA. The Court found that a negligent infliction of emotional distress claim may be brought by "those plaintiffs who sustain a physical impact as a result of a defendant's negligent conduct, or who are placed in immediate risk of physical harm by that conduct." *Id.* at 2406, 2410.

Here, the district court found that Buckley did not fulfill the test for negligent infliction of emotional distress actions set forth in *Gottshall* because he did not suffer "sufficient impact with asbestos" to sustain a claim and "failed to prove that he had suffered a real emotional injury." We first address the district court's finding regarding physical impact and then turn to its finding regarding Buckley's emotional injury.

A. Physical Impact

As we noted above, a plaintiff may state a claim for negligent infliction of emotional distress only if the plaintiff suffers a physical impact or the defendant's conduct "threatens [the plaintiff] imminently with physical impact"--the zone of danger test. *Gottshall* at 2410.

We disagree with the district court's finding that Buckley did not suffer "sufficient impact with asbestos" to sustain a claim for negligent infliction of emotional distress. We hold that the district court erred in granting Metro-North a judgment as a matter of law because, from the evidence presented at trial, a reasonable jury could conclude that Buckley suffered a physical impact with asbestos.*

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* Buckley does not claim damages for increased risk of developing disease. In order to recover for an increased risk of disease, as opposed to negligent infliction of emotional distress based upon fear of disease, a plaintiff must show a physical impact and a probability that the disease will actually develop in the future. *See Hagerty v. L & L Marine Services, Inc.*, 788 F.2d 315, 319-20 (5th Cir. 1986), *modified*, 797 F.2d 256 (5th Cir. 1986). The evidence in this case would not support such a claim, because Buckley cannot (continued...)

There is ample evidence in the record that the asbestos dust coated Buckley's skin and clothes, entering his nose, eyes, and mouth. Indeed, he could actually taste the chalky insulation material. When viewed in the light most favorable to Buckley, the evidence shows that he suffered a massive exposure to asbestos.** One need only visualize the image evoked by the pipe fitters' nickname--"the snowmen of Grand Central"--to understand the extent of Buckley's exposure to asbestos.

Furthermore, Buckley's expert witnesses testified that Buckley inhaled a large quantity of thin, needle-like asbestos fibers due to the work conditions imposed by Metro-North. When inhaled, asbestos fibers become imbedded in lung tissue and, according to Buckley's experts, cause subclinical changes to occur. Eventually, after ten to forty years, deadly and debilitating diseases may develop.

Metro-North argues that such exposure does not constitute an impact unless clinical signs of asbestos-related disease develop. Though both experts testified that Buckley's lungs had suffered subclinical changes, they admitted that Buckley had yet to display any verifiable clinical signs of asbestos exposure. However, the evidence Buckley presented

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*(...continued)
demonstrate a probability that he will develop an asbestos-related disease.

** We do not believe that Buckley's claim should be defeated because he cannot quantify the amount of asbestos to which he was exposed. The reason no tests of asbestos levels were performed during the period of exposure was that Metro-North did not wish to disclose the presence of asbestos and therefore did not conduct any such tests.

showed that the absence of clinically verifiable proof is not dispositive. Given the strong evidence of massive exposure and the expert testimony regarding the likelihood of inhalation and its effect, we think a reasonable jury could find that Buckley suffered a physical impact from large amounts of asbestos fibers despite the lack of clinical proof of asbestos exposure. We cannot find as a matter of law that Buckley's injuries are not genuine simply because they are subcellular. The effect of asbestos in the lungs is a subtle, complex matter. It is for the jury, assisted by expert testimony, to determine whether Buckley has suffered present harm.

Our recent decision in *Marchica v. Long Island R.R. Co.*, 31 F.3d 1197 (2d Cir. 1994), *cert. denied*, ___ U.S. ___, 115 S.Ct. 727, 130 L.Ed.2d 631 (1995), supports our conclusion that a reasonable jury could find that Buckley sustained a physical impact from his exposure to asbestos. In *Marchica*, we found that a railroad worker suffered a physical impact sufficient to recover for fear of contracting the AIDS virus when a discarded hypodermic needle stabbed the worker's hand while he was cleaning up an area of a railroad station notorious as a haven for drug users. *Id.* at 1206. We held that, even though it was never determined that the AIDS virus was present in the needle, such an injury "would cause a reasonable person to develop a fear of AIDS." *Id.* We noted that "[h]ad Marchica merely touched the discarded needle and become concerned about the possibility of developing AIDS, the case would stand on a very different footing." *Id.* at 1204. The distinction between a stab wound and a touch rests upon the method by which the AIDS virus is transmitted. The AIDS virus cannot be contracted simply by touching: penetration and contact with body fluid is required. A fear of developing AIDS absent such contact would be unreasonable.

Similarly, the fear of developing an asbestos-related disease from an incidental contact with asbestos would be unreasonable. Asbestos, as the evidence at trial showed, exists in small quantities in the air we breathe each day and such low-level contacts do not in any way affect the vast majority of people. Buckley, however, does not claim that his fear arises from normal contact with asbestos in the ambient air. Rather, as Buckley's counsel explained, Buckley's fear stems from "exposure to hazardous amounts of asbestos for an average of one hour per day while actual[ly] removal[ing], handling and working [with] asbestos insulation ... during the period from June of 1985 to June of 1988." Buckley offered evidence that such an exposure causes a measurable increase in the possibility of his developing asbestos-related disease. Just like the needle puncture in *Marchica*, Buckley's three years of daily contact with the cancer-causing substance--contact that from time to time left him covered from head to toe in asbestos dust--constitutes a physical impact that would lead a reasonable person to fear asbestos-related cancer.

For this reason, we reject the FELA cases finding that asbestos fiber inhalation cannot constitute an injury. *See Schweitzer v. Consolidated Rail Corp.*, 758 F.2d 936, 942 (3d Cir.), *cert. denied*, 474 U.S. 864, 106 S.Ct. 183, 88 L.Ed.2d 152 (1985); *Amendola v. Kansas City So. Ry. Co.*, 699 F. Supp. 1401, 1403 n. 3, 1410-11 (W.D. Mo. 1988). While these cases express a concern over speculative or frivolous lawsuits, the Marchica case makes clear that the relevant inquiry is whether the impact would cause fear in a reasonable person. To make this determination, a jury must take into account the nature of the toxic substance, its method of transmission into the body, the extent of the exposure to the substance and how the disease develops in response to the presence of the toxic substance in the body. Given the evidence of Buckley's prolonged and pronounced exposure to

asbestos, a jury may find that he suffered an impact that would cause fear in a reasonable person.

Metro-North urges us to follow those common law fear-of-disease cases holding that exposure to a carcinogen is not in and of itself enough to constitute a physical impact. It is true that many cases hold that a fear-of-disease plaintiff must prove both actual exposure to a disease and a reasonable medical probability of later developing a disease. *See Marchica*, 31 F.3d at 1204 and cases cited therein; *Doner v. Ed Adams Contracting Inc.*, 208 A.D.2d 1072, 1072-73, 617 N.Y.S.2d 565, 566 (3d Dept. 1994) (though plaintiff could prove actual exposure to asbestos, plaintiff failed to show he was likely to contract a disease and thus could not prevail on emotional distress claim). Other courts insist a plaintiff prove the exposure caused a present physical injury, that a future disease will likely develop, or that the emotional injury has manifested itself physically. *See Marchica*, 31 F.3d at 1204 and cases cited therein; *In re Hawaii Federal Asbestos Cases*, 734 F. Supp. 1563, 1569-70 (D. Haw. 1990) (fear of asbestos disease not rational unless plaintiff experiences functional impairment); *Burns v. Jaquays Mining Corp.*, 156 Ariz. 375, 378, 752 P.2d 28, 31 (Ct. App. 1987) (no cause of action for fear of disease absent bodily injury); *Eagle-Picher Industries, Inc. v. Cox*, 481 So.2d 517, 527-28 (Fla. Dist. Ct. App. 1985) (same).

As we noted in *Marchica*, however, such cases are inapposite when, as here, a plaintiff's emotional distress results from an actual physical impact or injury. *See Marchica*, 31 F.3d at 1204.*** Furthermore, many courts

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*** The terms "impact" and "injury" were used interchangeably by the *Marchica* court to describe the needle prick suffered by Marchica.

have found that under certain circumstances exposure to asbestos or other disease- causing agents may constitute an impact sufficient to sustain a claim for fear of disease. *See, e.g., Hagerty*, 788 F.2d at 318 n. 1 (seaman soaked with toxic chemicals suffered a "physical injury from the drenching which constitutes an impact"); *Wetherill v. University of Chicago*, 565 F. Supp. 1553, 1560 (N.D. Ill. 1983) (prenatal exposure to DES is a physical impact); *Lavelle v. Owens-Corning Fiberglas Corp.*, 30 Ohio Misc. 2d 11, 14, 507 N.E.2d 476, 480 (Com. Pl. 1987) (exposure to asbestos while working with insulation is a physical contact sufficient to allow fear of cancer claim to proceed). We choose to follow these cases and hold that a reasonable jury could find that Buckley suffered a physical impact.

We decline to narrow our view of physical impact in order to avoid the flood of litigation that Metro-North claims we will unleash by this decision. First, "a more flexible view" of physical impact is "most consistent with FELA's remedial nature." *Marchica*, 31 F.3d at 1206. Second, only a narrow class of plaintiffs may sue under FELA, *see Gottshall*, 114 S. Ct. at 2412 (Ginsburg, J., dissenting), and FELA protects this group of plaintiffs from the negligent acts of employers to a greater extent than the plaintiffs would be protected at common law. Third, even within the narrow class of FELA plaintiffs, Buckley and the other "snowmen" present what we believe is an unusual case, as Buckley's exposure to asbestos was massive, lengthy, and tangible. Finally, Metro-North has admitted that it negligently allowed the pipe fitters to perform their duties without any knowledge on their part of the presence of asbestos or any training in its proper handling. We do not believe that the magnitude of Metro-North's wrong should limit the damages awarded against it. Thus, taking all inferences in favor of Buckley, we find that a jury, presented with the evidence in this case, may find that

Buckley suffered an impact that would cause fear in a reasonable person.

B. Emotional Injury

Even if a plaintiff suffers a physical impact that would cause fear in a reasonable person, the plaintiff will not be permitted to recover unless he or she actually suffers an emotional injury as a result of the physical impact. The district court held that no reasonable jury would find that Buckley suffered emotional distress. Because the district court believed that Buckley offered no corroborating evidence of his emotional distress, and because Buckley continued to smoke cigarettes after learning that smoking increases the risk to those exposed to asbestos, the court held that Buckley's claimed emotional distress was not serious enough to be compensable.

Though a plaintiff need not present medical proof of emotional distress, some *objective* proof apart from plaintiff's testimony must be offered in order for a jury to determine that the plaintiff suffered real emotional injury. *Miner v. City of Glens Falls*, 999 F.2d 655, 663 (2d Cir.1993). We disagree with the district court that there is a complete lack of objective proof in this case. Buckley testified that because of his fear and anger, he complained first to his supervisors and then to the Metropolitan Transit Authority Inspector General ("I.G.") about the asbestos in the tunnels. The district court said Buckley failed to corroborate these complaints, but one worker who testified, Gregory Peck, stated that "we went to the I.G." when asked on cross-examination how he found out that "everything that [Metro-North] did was wrong." In addition, the joint report issued by the I.G. and the New York State Attorney General's Office, admitted into evidence, detailed the workers' complaints to supervisors

and investigative bodies. This evidence, though slim, may provide substantiation of Buckley's claim.

Metro-North urges that regardless of whether Buckley provided any objective proof of emotional distress, he has not suffered emotional injury severe enough to sustain his claim. To permit an award for emotional distress arising out of a fear of cancer, a plaintiff must "introduce evidence of his particular fears with some specificity" and "as a threshold matter, present evidence of his particular fear of developing cancerous conditions." *Smith v. A.C. & S., Inc.*, 843 F.2d 854, 858-59 (5th Cir. 1988). Buckley's testimony about his anger and fear of dying satisfies this burden. It appears from our review of case law that emotional distress must be "severe" only when a plaintiff has not suffered a physical impact. In such a case, the severity of the emotional distress serves to guarantee the genuineness of the claim. *See Lacy v. Cooper Hosp./Univ. Med. Ctr.*, 745 F. Supp. 1029, 1035-36 (D.N.J. 1990); *Lavelle*, 30 Ohio Misc.2d at 14-15, 507 N.E.2d at 480-81; *Restatement (Second) of Torts* § 436A (1965); *compare Restatement (Second)* § 46 (to prove *intentional* infliction of emotional distress, plaintiff's emotional distress must be "so severe that no reasonable [person] could be expected to endure it"). Here, as we discussed above, a reasonable jury could find that Buckley has suffered a physical impact. Buckley is therefore entitled to all damages flowing from the impact, including his reasonable emotional distress, so long as the jury finds based upon Buckley's testimony and objective evidence that Buckley actually suffers from the fear and anger he claims.

We realize that the evidence of Buckley's emotional distress is not overwhelming. He does not suffer the sort of severe distress claimed by the plaintiff in *Marchica*, 31 F.3d at 1201, and there is not an abundance of evidence corroborating his claims. However, we do not believe that a jury

need rely only upon "sheer surmise and conjecture," *Samuels*, 992 F.2d at 14, in order to find Buckley suffered emotional distress. Therefore, we find that the district court erred in granting Metro-North a judgment as a matter of law on Buckley's negligent infliction of emotional distress claim.

II. Medical Monitoring Costs

As a separate claim, Buckley seeks to recover for the cost of future medical monitoring. The district court failed to address this claim at all in its judgment as a matter of law in favor of Metro-North. We find that medical monitoring costs are a reasonable basis for an award of damages in this case. We believe that the evidence presented by Buckley could convince a reasonable jury to grant medical monitoring damages.

Dr. Markowitz testified that because of Buckley's exposure to asbestos, he is at an increased risk of developing an asbestos-related disease which will peak between the ages of fifty and sixty-five. Dr. Markowitz stated that because of this risk, Buckley should be provided with present and future medical monitoring in order to detect and treat the diseases as they may arise, including an annual medical exam with pulmonary function tests and chest x- rays. Beginning at age 45, Buckley should also undergo a sigmoidoscopy and stool tests every other year. Dr. Markowitz estimated the annualized cost of these tests at $950.00.

It is hornbook law that a plaintiff may recover reasonable past and future medical expenses incurred as a result of an injury. *See* Charles T. McCormick, *Handbook on the Law of Damages* § 90 (1935). We believe that Buckley should be compensated for such medical monitoring as is reasonably necessary according to contemporary medical principles applied by physicians experienced in the diagnosis and

treatment of asbestos diseases. We agree with a number of other courts that such costs are

> a compensable item of damages where the proofs demonstrate, through reliable expert testimony predicated upon the significance and extent of exposure ... the toxicity of [asbestos], the seriousness of the diseases for which individuals are at risk, the relative increase in the chance of onset of disease in those exposed, and the value of early diagnosis, ... surveillance to monitor the effect of exposure to toxic chemicals is reasonable and necessary.

Ayers v. Township of Jackson, 106 N.J. 557, 606, 525 A.2d 287, 312 (1987). We find that Buckley may recover such costs despite the fact that he has yet to suffer an asbestos-related disease. As one court has noted, "the appropriate inquiry is not whether it is reasonably probable that plaintiffs will suffer harm in the future, but rather whether medical monitoring is ... necessary in order to diagnose properly the warning signs of disease." *In re Paoli R.R. Yard PCB Litigation (Paoli I)*, 916 F.2d 829, 851 (3d Cir. 1990), *cert. denied*, 499 U.S. 961, 111 S.Ct. 1584, 113 L.Ed.2d 649 (1991). *See also Gibbs v. E.I. DuPont de Nemours & Co., Inc.*, 876 F. Supp. 475, 478 (W.D.N.Y. 1995) (citing *Paoli I* with approval); *Gerardi v. Nuclear Utility Services, Inc.*, 149 Misc.2d 657, 659, 566 N.Y.S.2d 1002, 1004 (Sup. Ct. 1991) (defendant liable for medical monitoring expenses incurred by plaintiff due to "invasion of the body by toxic substances through negligent exposure"); *Askey v. Occidental Chemical Corp.*, 102 A.D.2d 130, 137, 477 N.Y.S.2d 242, 247 (4th Dept. 1984) (medical monitoring cost recoverable if plaintiff can establish to a reasonable degree of medical certainty that costs are "reasonably anticipated"); *Potter v. Firestone Tire & Rubber Co.*, 6

Cal.4th 965, 1006-07, 25 Cal. Rptr.2d 550, 863 P.2d 795, 822-23 (1993) (even in the absence of physical injury, reasonably certain medical monitoring costs may be recovered). Given the expert testimony in this case regarding impact, increased risk, and the necessity of monitoring, a reasonable jury could award Buckley medical monitoring costs.

Any award should be limited to costs incurred as a direct result of Buckley's asbestos exposure, rather than as a result of his history of smoking. We agree with the Third Circuit that a plaintiff must:

> prove that by reason of the exposure to the toxic substance caused by the defendant's negligence, a reasonable physician would prescribe for her or him a monitoring regime different than the one that would have been prescribed in the absence of that particular exposure. This is because under this cause of action, a plaintiff may recover only if the defendant's wrongful acts increased the plaintiff's incremental risk of incurring the harm produced by the toxic substance enough to warrant a change in the medical monitoring that otherwise would be prescribed for that plaintiff.

In re Paoli R.R. Yard PCB Litigation (Paoli II), 35 F.3d 717, 788 (3d Cir. 1994) (quoting *Hansen v. CCI Mech.*, 858 P.2d 970, 980 (Utah 1993) (citations omitted)), *cert. denied*, ___ U.S. ___, 115 S.Ct. 1253, 131 L.Ed.2d 134 (1995). Therefore, a jury may only award to Buckley damages for that medical monitoring which is necessary because of his exposure to asbestos.

Competent expert testimony in this case established both that Buckley suffered a substantial impact from asbestos that has significantly increased his risk of contracting an asbestos-related disease and that Buckley should receive medical monitoring in order to ensure early detection and cure of any asbestos-related disease he develops. The costs of such tests are a traditional element of tort damages, and a reasonable jury may award them to Buckley in this case.

CONCLUSION

For the reasons stated above, we vacate the judgment as a matter of law entered in favor of Metro-North and remand this case to the district court for a jury trial.

DECISION OF THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT DATED JULY 10, 1996

UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT
UNITED STATES COURT HOUSE
40 FOLEY SQUARE
NEW YORK 10007

GEORGE LANGE III
CLERK

At a stated term of the United States Court of Appeals for the Second Circuit, held at the United States Courthouse, Foley Square, in the City of New York, on the 10 day of July one thousand nine hundred and ninety-six.

Michael Buckley,

Plaintiff-Appellant,

v. Dkt No. 95-7399

Metro-North Commuter
Railroad Company

Defendant-Appellee

A petition for rehearing containing a suggestion that the action be *reheard* in banc having been filed herein by the appellee Metro-North Commuter Railroad Company's.

Upon consideration by the panel that decided the appeal, it is Ordered that said petition for rehearing is DENIED.

It is further noted that the suggestion for rehearing in banc has been transmitted to the judges for the court in regular active service and to any other judge that heard the appeal and that no such judge has requested that a vote be taken thereon.

(Jurat omitted in printing)

STATUTE INVOLVED

UNITED STATES CODE

TITLE 45 -- RAILROADS

CHAPTER 2--LIABILITY FOR INJURIES TO EMPLOYEES

§ 51. Liability of common carriers by railroad, in interstate or foreign commerce, for injuries of employees from negligence; employee defined

Every common carrier by railroad while engaging in commerce between any of the several States or Territories, or between any of the States and Territories, or between the District of Columbia and any of the States or Territories, or between the District of Columbia or any of the States or Territories and any foreign nation or nations, shall be liable in damages to any person suffering injury while he is employed by such carrier in such commerce, or, in case of the death of such employee, to his or her personal representative, for the benefit of the surviving widow or husband and children of such employee; and, if none, then of such employee's parents; and, if none, then of the next of kin dependent upon such employee, for such injury or death resulting in whole or in part from the negligence of any of the officers, agents, or employees of such carrier, or by reason of any defect or insufficiency, due to its negligence, in its cars, engines, appliances, machinery, track, roadbed, works, boats, wharves, or other equipment.

Any employee of a carrier, any part of whose duties as such employee shall be the furtherance of interstate or

foreign commerce; or shall, in any way directly or closely and substantially, affect such commerce as above set forth shall, for the purposes of this chapter, be considered as being employed by such carrier in such commerce and shall be considered as entitled to the benefits of this chapter.

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